

SHOUT **IT**
SHARE



H-17

Division of Maps

3

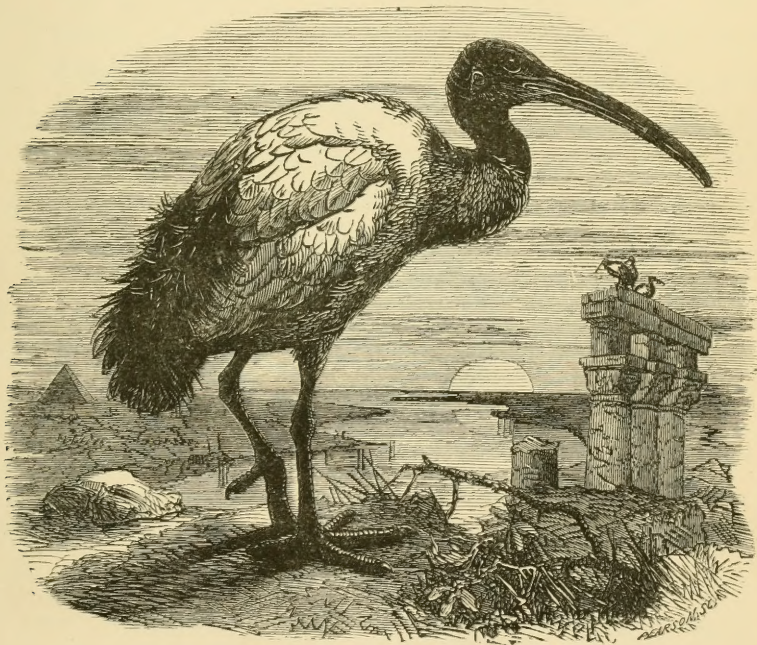
373
of Am.

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON.



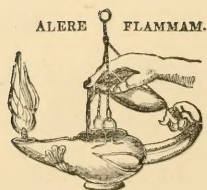
VOL. VI. 1894.
SIXTH SERIES.

T. P.

Cognovi omnia volatilia celi.

LONDON:
GURNEY AND JACKSON, 1 PATERNOSTER ROW.
(SUCCESSORS TO J. VAN VOORST.)

1894.



PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

PREFACE.

It was not without some misgivings, both for public and private reasons, as I stated in 1889, that I consented, at the earnest request of some of my most valued friends, to undertake the sole Editorship of the Sixth Series of 'The Ibis.' I am now, it need hardly be said, much pleased to have brought the final volume of the series to a conclusion, which I may be pardoned in designating as not unsuccessful. The thirty-sixth volume of our Journal is not quite so bulky as the thirty-fifth, but contains the same number of plates, and many articles, I think, of equal interest.

In undertaking a share in the Editorship of the Seventh Series, as I have now, perhaps somewhat rashly, promised to do, it is a great satisfaction to me that I shall have the assistance of my former colleague, Mr. Howard Saunders. Without his valuable aid I could not have ventured to incur such a serious responsibility.

As regards communications to this Journal in many branches of our Science, I have received most

efficient support during the past six years. In the departments of Anatomy and Pterylosis, however, there is still much work to be done; and I hope that some of our younger Members may be induced to devote their energies to these special subjects. It is from such researches that we may hope to find a key to the great question of the correct arrangement of the Acromyodian Passeres. The new scheme propounded by Mr. Oates in the 'Fauna of British India,' though it meets certain difficulties, cannot, I think, be deemed altogether satisfactory. It is possible that an attentive study of the pterylosis of these birds, especially of the structure and modifications of the wing-feathers, may lead to a more generally acceptable result.

In the Anatomy of Birds there are also numerous points still open for future investigation, although the studies of Garrod, Forbes, Fürbringer, and Gadow have of late years materially advanced our knowledge of this branch of our Science.

P. L. S.

3 Hanover Square, London, W.
Sept. 5th, 1894.

BRITISH ORNITHOLOGISTS' UNION.

1894.

[An asterisk indicates an Original Member. It is particularly requested that Members will give notice to the Secretary of the Union, 10 Chandos Street, London, W., of any error in their addresses or descriptions in this List, in order that it may be immediately corrected.]

Date of
Election.

1893. ERNEST L. S. ANNE, Major ; Blenkinsopp Castle, Greenhead, Carlisle.
1887. FREDERICK CHARLES APLIN ; Bodicote, Banbury, Oxon.
1888. OLIVER VERNON APLIN ; Bloxham, Banbury, Oxon.
1885. JAMES BACKHOUSE, Jun., F.Z.S. ; Renoso, Victoria Avenue, Harrogate.
- 5 1892. E. C. STEUART BAKER ; District Superintendent of Police, Gunjong, Cachar, Assam, India, and The Hermitage, Broadstairs, Kent.
1879. DR. VALENTINE BALL, C.B., F.R.S. ; Director, Science and Art Museum, Dublin.
1889. RICHARD JAMES BALSTON, F.Z.S. ; Springfield, Maidstone.
1890. FRANCIS HUBERT BARCLAY ; Knott's Green, Leyton.
1872. HANBURY BARCLAY, Colonel, F.Z.S. ; Tingrith Manor, Woburn, Bedfordshire.
- 10 1885. HUGH G. BARCLAY ; Colney Hall, Norwich.
1884. HENRY E. BARNES, Lieut., F.Z.S. ; Commissariat Officer, Ahmednagar, Deccan, India.
1889. GERALD BARRETT-HAMILTON ; Kilmannock House, New Ross, Wexford.
1881. RICHARD MANLIFFE BARRINGTON, LL.B. ; Fassaroc, Bray, co. Wicklow.
1893. AUBYN B. R. TREVOR-BATTYE, F.Z.S., St. Margaret's Mansions, 51 Victoria Street, S.W.
- 15 1884. FRANK E. BEDDARD, M.A., F.R.S., F.Z.S., Prosecutor to the Zoological Society of London ; Zoological Gardens, Regent's Park, N.W.
1880. EDWARD BIDWELL ; 1 Trig Lane, Upper Thames Street, E.C.
1884. CHARLES T. BINGHAM, Major (Indian Staff Corps), F.Z.S. : Deputy Conservator of Forests, Moulmein, Burma.

Date of
Election.

1892. The Rev. MAURICE C. H. BIRD, M.A.; Brunstead Rectory, Stalham, Norfolk.
1891. F. E. BLAAUW, C.M.Z.S.; s'Graveland, Hilversum, Holland.
- 20 1893. ERNEST W. H. BLAGG; Greenhill, Cheadle, Staffordshire.
1873. WILLIAM T. BLANFORD, F.R.S., F.Z.S.; 72 Bedford Gardens, Kensington, W.
1893. GEORGE BOLAM, F.Z.S.; Castlegate, Berwick-on-Tweed.
1894. JOHN LEWIS BONHOTE; 68 Lexham Gardens, Kensington, W.
1878. WILLIAM BORRER, M.A., F.L.S.; Cowfold, Horsham.
- 25 1885. WILLIAM F. BROCKHOLES; Claughton-on-Brook, Garstang, Lancashire.
1890. HARRY BRINSLEY BROOKE; 33 Egerton Gardens, Kensington, W.
1892. WILLIAM E. BROOKS; Mount Forest, Ontario, Canada.
1868. THOMAS EDWARD BUCKLEY, B.A., F.Z.S.; Rossal, Inverness, N.B.
1872. Sir WALTER LAWRY BULLER, K.C.M.G., Sc.D., F.R.S., C.M.Z.S.; Wellington, New Zealand.
- 30 1884. E. A. BUTLER, Lieut.-Col.; Brettenham Park, Bideston, Suffolk.
1884. GEOFFREY FOWELL BUXTON; Sunny Hill, Thorpe, Norwich.
1889. EWEN SOMERLED CAMERON, F.Z.S.; care of Mrs. Cameron, Belmont, Tunbridge Wells.
1888. JOHN DUNCAN CAMERON; Low Wood, Bethersden, near Ashford, Kent.
1892. CHARLES WILLIAM CAMPBELL, C.M.Z.S.; H.B.M. Consular Service, China, British Legation, Peking.
- 35 1879. Sir THOMAS DAVID GIBSON-CARMICHAEL, Bart., F.Z.S.; Castle Craig, Dolphinton, N.B.
1888. JAMES CARTER; Burton House, Masham, Yorkshire.
1890. CHARLES JOHN PHILIP CAVE, F.Z.S.; Ditcham Park, Petersfield.
1888. WALTER CHAMBERLAIN, F.Z.S.; Harborne Hall, Harborne, near Birmingham.
1894. A. MACOMB CHANCE, Jun., B.A.; Lawnside, Edgbaston, Birmingham.
- 40 1884. ABEL CHAPMAN; 14 Thornhill Gardens, Sunderland.
1894. EDWARD HENRY CHAPMAN; 17 St. Hilda's Terrace, Whitby.
1882. ROBERT WILLIAM CHASE; Southville, Priory Road, Edgbaston, Birmingham.
1839. STEPHENSON ROBERT CLARKE, F.Z.S.; 25 Chesham Street, S.W., and Croydon Lodge, Croydon, Surrey.
1880. WILLIAM EAGLE CLARKE, F.L.S.; Museum of Science and Art, Edinburgh.

- Date of
Election.
- 45 1880. E. H. COOPER, Lieut.-Col., F.Z.S.; 42 Portman Square,
London, W.
1874. JOHN CORDEAUX; Great Cotes, R.S.O., Lincoln.
1888. WILLIAM WILFRID CORDEAUX; Queen's Bays, India.
1882. CHARLES B. CORY, F.Z.S.; 8 Arlington Street, Boston, Mass.,
U.S.A.
1892. HAROLD MITCHELL COURAGE; Snowdenham, Bramley, Guild-
ford.
- 50 1894. Sir VAUNCEY HARPUR CREWE, Bt.; Calke Abbey, Derbyshire.
1882. PHILIP CROWLEY, F.Z.S.; Waddon House, Waddon, Croydon.
1877. JOHN J. DALGLEISH; Brankston Grange, Bogside Station,
Stirling, N.B.
1874. CHARLES G. DANFORD, F.Z.S.; Hatszeg, Siebenbürgen, Hungary.
and Conservative Club, St. James's Street, London, S.W.
1883. JAMES DAVIDSON; 32 Drumsheugh Gardens, Edinburgh.
- 55 1893. W. E. DE WINTON; Graftonbury, Hereford, and 38 Great
Russell Street, W.C.
1889. WILLIAM HENRY DOBIE, M.R.C.S.; 22 Upper Northgate Street,
Chester.
1883. SCROPE B. DOIG; Public Works Department, Bombay.
1880. ARTHUR DOWSETT, F.Z.S.; Castle Hill House, Reading.
1865. HENRY EELES DRESSER, F.L.S., F.Z.S.; Topclyffe Grange,
Farnborough, Beckenham, Kent.
- 60 *HENRY MAURICE DRUMMOND-HAY, C.M.Z.S., Lieut.-Col., Royal
Perth Rifles; Seggieden, Perth.
1890. JAMES A. G. DRUMMOND-HAY (Coldstream Guards); Guards'
Club, Pall Mall, S.W.
1878. W. ARTHUR DURNFORD, J.P.; Elsecar, Barnsley.
1870. DANIEL GIRAUD ELLIOT, F.R.S.E., F.Z.S.; American Museum
of Natural History, New York.
1884. ALGERNON ELLIOTT, Deputy Commissioner, Yeotmahl, Berar,
H.A.D., India.
- 65 1866. HENRY JOHN ELVES, F.Z.S.; Colesborne Park, Cheltenham.
1879. ARTHUR HUMBLE EVANS, M.A., F.Z.S.; 9 Harvey Road, Cam-
bridge.
1888. WILLIAM EVANS, F.R.S.E.; 18a Morningside Park, Edinburgh.
1891. ALFRED HART EVERETT, C.M.Z.S.; Labuan, Borneo.
1892. WILLIAM GEORGE FAIRBRIDGE; 133 Long Market Street,
Capetown.
- 70 1894. ARTHUR M. FARQUHAR, Commander R.N.; Drumnayesk,
Aboyne, N.B.

Date of
Election.

1873. HENRY WEMYSS FEILDEN, Col., C.M.Z.S.; West House, Wells, Norfolk, and Junior United Service Club, St. James's, S.W.
1886. HAROLD STUART FERGUSON, Lieut. Nair Brigade; Trevandrum, Travancore.
1891. LEOPOLD FIELD, F.Z.S.; St. Stephen's Club, Bridge Street, Westminster, S.W.
1892. FRANK FINN, B.A., F.Z.S.; Mote House, Mote Road, Maidstone.
- 75 1890. LIONEL FISHER; Kandy, Ceylon.
1884. HENRY OGG FORBES, F.Z.S.; Free Public Museum, Liverpool.
1880. WILLIAM FOSTER; The Hill, Witley, Surrey.
1887. WILLIAM WEEKES FOWLER, M.A.; Lincoln College, Oxford.
1865. Rev. HENRY ELLIOTT FOX, M.A.; 12 South Bailey, Durham.
- 80 1881. PERCY EVANS FREKE; 9 Sydenham Road, Dundrum, co. Dublin.
1881. HANS GADOW, Ph.D., F.Z.S.; University Zoological Museum, Cambridge.
1886. CHARLES WILLIAM FRANCIS, EARL OF GAINSBOROUGH; Exton Park, Oakham.
1885. Sir RALPH PAYNE GALLWEY, Bart.; Thirkleby Park, Thirsk.
1892. JOHN GERRARD; Government Inspector of Mines, Worsley, Manchester.
- 85 1879. ERNEST GIBSON; care of Thos. Gibson, Esq., 1 Eglinton Court, Edinburgh.
- *FREDERICK DUCANE GODMAN, F.R.S., F.Z.S.; 10 Chandos Street, Cavendish Square, W.
- *PERCY SANDEN GODMAN, B.A., C.M.Z.S.; Muntham, Horsham.
1874. HENRY HAVERSHAM GODWIN-AUSTEN, Lieut.-Col., F.R.S., F.Z.S.; Shalford House, Guildford.
1884. JOHN G. GOODCHILD, F.Z.S.; Museum of Science and Art, Edinburgh.
- 90 1886. WILLIAM GRAHAM, F.Z.S.; Manor House, Crayford, Kent.
1890. WILLIAM R. OGILVIE GRANT; 26 Hereford Square, S.W.
1885. F. H. H. GUILLEMARD, M.A., M.D., F.Z.S.; Eltham, Kent.
1876. ALBERT C. L. G. GÜNTHER, M.A., M.D., F.R.S., F.Z.S.; Keeper of the Zoological Department, British Museum (Natural History), Cromwell Road, S.W.
1870. JOHN HENRY GURNEY, F.Z.S.; Keswick Hall, Norwich, and Athenæum Club, Pall Mall, S.W.

Date of
Election.

- 95 1890. JOSHUA REYNOLDS GASCOIGN GWATKIN ; Manor House,
Potterne, Devizes.
1891. GEORGE HENRY CATON HAIGH ; Grainsby Hall, Great Grimsby,
Lincolnshire.
1887. JOHN PLEYDELL WILTON HAINES ; The Lodge, Gloucester.
1886. EDWARD HAMILTON, M.D., F.L.S., F.Z.S. ; 16 Cromwell Place,
S.W.
1883. LEWIS VERNON HARCOURT ; Malwood, Lyndhurst, Hants.
- 100 1876. HENRY CHARLES HARFORD, Major 2nd Wilts Regt. ; Glen
Froome, Nelson Crescent, Southsea.
1877. EDWARD HARGITT, F.Z.S. ; 1 Northanger Road, Streatham
Common, S.W.
1893. ERNST HARTERT ; The Museum, Tring, Herts.
1868. JAMES EDMUND HARTING, F.L.S., F.Z.S. ; Linnean Society,
Burlington House, Piccadilly, W.
1893. WILLIAM HARTMANN ; Tangley Mere, Chilworth, Surrey.
- 105 1873. JOHN A. HARVIE-BROWN, F.Z.S. ; Dunipace House, Larbert, N.B.
1868. REV. HERBERT S. HAWKINS, M.A. ; Beyton Rectory, Suffolk.
1887. CHARLES T. HEBBERT, F.Z.S. ; The Rhodrons, Hook, Kingston-
on-Thames.
1884. C. J. HOLDSWORTH ; Hill Top, near Kendal, Westmoreland.
1877. EDMUND W. H. HOLDSWORTH, F.Z.S. ; South Town, Dart-
mouth, Devon.
- 110 1891. ARTHUR H. HOLLAND ; Sta. Elena, Soler, F. C. al Pacifico,
Buenos Ayres.
1888. HERBERT KNIGHT HORSFIELD ; Ivy Lodge, Chapel Allerton,
Leeds.
1893. CHARLES HOSE, F.Z.S. ; Resident, Baram, Sarawak, Borneo.
1881. ROBERT JAMES HOWARD ; Hawkhurst, Blackburn, Lancashire.
- *WILFRID HUDLESTON HUDLESTON, M.A., F.R.S., F.Z.S. ;
8 Stanhope Gardens, S.W.
- 115 1893. WILLIAM HENRY HUDSON, C.M.Z.S. ; Tower House, St. Luke's
Road, Westbourne Park, W.
1869. ALLAN OCTAVIAN HUME, C.B., C.S.I., F.Z.S. ; The Chalet,
Kingswood Road, Upper Norwood, S.E.
1890. HENRY CHARLES VICARS HUNTER ; Mawley Hall, Cleobury
Mortimer, Salop.
1870. HEDWORTH HYLTON, Lord HYLTON, F.Z.S. ; Merstham House,
Red Hill, Surrey.
1870. LEONARD HOWARD L. IRBY, Lieut.-Col., F.Z.S. ; 14 Corn-
wall Terrace, Regent's Park, N.W.

Date of
Election.

- 120 1888. FREDERICK J. JACKSON, F.Z.S.; 13 Westbourne Square,
W.
1892. HENRY ASHWORTH JAMES; 11 Oxford Square, Hyde Park, W.
1889. FREDERICK PONSONBY JOHNSON; Castlesteads, Brampton,
Cumberland.
1891. HENRY HAMILTON JOHNSTON, C.B., F.Z.S.; The Residency,
Zomba, British Central Africa, *viâ* Zanzibar and Chindi.
1880. HENRY ROBERT KELHAM, Major, 2nd Bn. Highland Light
Infantry; Fyzabad, India.
- 125 1894. HENRY JOSEPH KELSALL, R.A.; Woolwich, S.E.
1882. PHILIP M. C. KERMODE; Hillside, Ramsay, Isle of Man.
1891. J. GRAHAM KERR; Christ's College, Cambridge.
1882. REV. EDW. PONSONBY KNUBLEY, M.A.; Staveley Rectory,
Leeds.
1892. THOMAS GEDDES LAIDLAW; Bank of Scotland, Morningside
Branch, Edinburgh, and 8 Morningside Road, Edinburgh.
- 130 1884. HERBERT LANGTON; 11 Marlborough Place, Brighton.
1881. HON. GERALD LASCELLES; Queen's House, Lyndhurst.
1892. JOHN DAVID DIGUES DE LA TOUCHE; Chinese Imperial Mari-
time Customs, Amoy, China.
1892. ARTHUR MOORE LAWS; Little Clacton Lodge, near Colchester.
1885. GEORGE LAWSON, C.B.; 36 Craven Hill Gardens, Hyde Park,
W.
- 135 1876. WILLIAM VINCENT LEGGE, Col. late R.A., F.Z.S.; Cullenswood
House, St. Mary's, Tasmania.
1868. HAMON LE STRANGE, F.Z.S.; Hunstanton Hall, King's Lynn,
Norfolk.
1875. PAGET WALTER LE STRANGE, Col. R.A.; Dol-llan, Llandyssil,
South Wales.
1893. FREDERICK LEWIS; Assistant Conservator of Forests, Ratna-
pura, Ceylon.
1889. CHRISTOPHER JOHN LEYLAND; Haggerston Castle, Beal,
Northumberland.
- 140 *THOMAS LYTTLETON, Lord LILFORD, F.L.S., F.Z.S.; Lilford
Hall, Oundle.
1874. JOHN HAYES LLOYD, Col., F.Z.S.; 95 Adelaide Road, N.W.
1889. ARTHUR PURVIS LOYD, F.Z.S. (late Major 21st Hussars);
3 Queen's Mansions, Victoria Street, S.W.
1877. JAMES LUMSDEN, F.Z.S.; Arden House, Alexandria, N.B.
1894. ARTHUR HOLTE MACPHERSON; 51 Gloucester Place, Hyde
Park, W.

- Date of
Election.
- 145 1886. REV. HUGH ALEXANDER MACPHERSON, M.A.; 11 Victoria Place,
Carlisle.
1875. JOHN WINGFIELD MALCOLM, F.Z.S.; 7 Great Stanhope Street,
Mayfair, W.
1878. HENRY STACY MARKS, R.A., F.Z.S.; 17 Hamilton Terrace,
St. John's Wood, N.W.
1894. ARCHIBALD McLEAN MARSHALL; 29 Queen's Gate Gardens,
S.W.
1894. JAMES McLEAN MARSHALL; 29 Queen's Gate Gardens, S.W.
- 150 1878. REV. MURRAY A. MATHEW, M.A., F.L.S.; Buckland Dinham,
Frome, Somersetshire.
1883. EDMUND GUSTAVUS BLOOMFIELD MEADE-WALDO, F.Z.S.; Rope
Hill, Lymington, Hants.
1886. JOHN GUILLE MILLAIS, F.Z.S.; 2 Palace Gate, Kensington, W.
1879. FREDERICK SHAW MITCHELL; Edmonton, Alberta, N. W. T.,
Canada.
1892. ST. GEORGE MIVART, Ph.D., M.D., F.R.S.; Oriental Club,
Hanover Square, W.
- 155 1890. THOMAS JAMES MONK; St. Anne's, Lewes, Sussex.
1864. ALEXANDER GOODMAN MORE, F.L.S.; 74 Leinster Road,
Rathmines, Dublin.
1886. GEORGE MUIRHEAD, F.Z.S.; Mains of Haddo, Aberdeen.
1893. WILLIAM H. MULLENS, M.A., F.Z.S.; Westfield Place, near
Battle, Sussex.
1892. PHILIP WINCHESTER MUNN; Laverstoke, Whitechurch, Hants.
- 160 1885. EDWARD NEALE; 43 Charlotte Street, Portland Place, W.
1882. THOMAS HUDSON NELSON; Sandringham House, Redcar, York-
shire.
1876. HUGH NEVILL; Newton Villa, Godalming.
1872. FRANCIS D'ARCY WILLIAM CLOUGH NEWCOME; Feltwell Hall,
Brandon, Suffolk.
- *ALFRED NEWTON, M.A., F.R.S., F.Z.S., Professor of Zoology
in the University of Cambridge; Magdalene College, Cam-
bridge.
- 165 *SIR EDWARD NEWTON, K.C.M.G., M.A., F.L.S., C.M.Z.S.;
23 Wellington Esplanade, Lowestoft.
1891. DIGBY SEYS WHITLOCK NICHOLL, F.L.S., F.Z.S.; The Ham,
Cowbridge, Glamorganshire.
1886. HOWARD HILL JOHN NICHOLLS, M.R.C.S.; The Moat, East-
bourne.
1876. FRANCIS NICHOLSON, F.Z.S.; Oakfield, Ashley Rd., Altrincham.

Date of
Election.

1887. GEORGE CAMERON NORMAN, F.Z.S. ; 68 Lombard Street, E.C.
- 170 1882. EUGENE WILLIAM OATES, F.Z.S. ; Toungho, Burma.
1892. FERGUS MENTEITH OGILVIE, M.A., F.Z.S. ; Sizewell House,
Leiston, Suffolk.
1889. BERTRAM SAVILE OGLE ; Hill House, Steeple Aston, Oxford.
- *Sir JOHN W. P. CAMPBELL-ORDE, Bart., F.Z.S., late Captain
42nd (Royal Highland) Regiment ; Kilmory House,
Lochgilphead, Argyllshire, N.B.
1883. HENRY PARKER, C.E., F.Z.S., Irrigation Officer, P.W.D. ;
Kurunegala, Ceylon.
- 175 1880. THOMAS PARKIN, M.A., F.Z.S. ; Fairseat, High Wickham,
Hastings.
1891. ROBERT PATTERSON ; Tilecote, Malone Park, Belfast.
1884. R. LLOYD PATTERSON, F.L.S. ; Croft House, Holywood, co.
Down.
1894. CHARLES EDWARD PEARSON ; Chilwell House, near Nottingham.
1891. HENRY J. PEARSON ; Bramcote, Beeston, Notts.
- 180 1891. FRANK PENROSE ; 4 Harley Street, W.
1886. E. LORT PHILLIPS, F.Z.S. ; 79 Cadogan Square, S.W.
1888. GEORGE THORNE PHILLIPS ; Wokingham, Berkshire.
1893. THOMAS DIGBY PIGOTT, C.B. ; 5 Ovington Gardens, S.W.
1883. THOMAS MAYER PIKE, M.A. ; care of R. H. Porter, 18 Princes
Street, Cavendish Square, W.
- 185 1888. MERVYN OWEN WAYNE POWYS, B.A., F.Z.S. ; 2 Tenterden Street,
Hanover Square, W., and Oriental Club, Hanover Square, W.
1893. WILLIAM PLANE PYCRAFT ; Department of Comparative
Anatomy, University Museum, Oxford.
1888. CHARLES ROBERT EUSTACE RADCLYFFE ; 1st Life Guards, and
Hyde, Wareham, Dorset.
1872. R. G. WARDLAW RAMSAY, Major, F.Z.S. ; Tillicoultry House,
Tillicoultry, N.B.
1879. HERBERT EVELYN RAWSON, F.Z.S. ; Fallbarrow, Windermere.
- 190 1849. RICHARD HENRY READ, L.R.C.P., M.R.C.S. ; Church Street,
Hanley.
1888. ROBERT H. READ ; care of Sir John Fowler, 2 Queen Square
Place, Queen Anne's Gate, S.W., and 80 The Grove, Ealing,
W.
1877. SAVILE G. REID, late Capt. R.E., F.Z.S. ; Thornhaugh, Swanage,
Dorset.
1893. PERCY RENDALL, M.D., F.Z.S. ; Eureka City, Barberton, South
African Republic.

Date of
Election.

1893. The Hon. L. WALTER ROTHSCHILD, F.Z.S.; Tring Park, Tring, Herts.

195 1894. The Hon. NATHANIEL CHARLES ROTHSCHILD; Tring Park, Tring.

1883. WILLIAM HERBERT ST. QUINTIN, F.Z.S.; Scampston Hall, Rillington, Yorkshire.

*OSBERT SALVIN, M.A., F.R.S., F.Z.S.; 10 Chandos Street, W., and Hawksfold, Fernhurst, Haslemere.

1870. HOWARD SAUNDERS, F.L.S., F.Z.S.; 7 Radnor Place, Hyde Park, W.

*PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.; Secretary to the Zoological Society of London, 3 Hanover Square, W., and Odiham Priory, Winchfield.

200 1891. WILLIAM LUTLEY SCLATER, M.A., F.Z.S.; Eton College, Windsor.

1881. JOHN SCULLY, F.L.S., F.Z.S., Surgeon-Lt.-Col.; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

1873. HENRY SEEBOHM, F.Z.S.; 22 Courtfield Gardens, S.W.

1889. HUMPHREY PATRICIUS SENHOUSE, B.A.; The Fitz, Cocker-mouth, Cumberland.

1871. RICHARD BOWDLER SHARPE, LL.D., F.L.S., F.Z.S.; Senior Assistant, Zoological Department, British Museum (Natural History), South Kensington, S.W.

205 1886. WILLIAM CARSTAIRS SHAW; Bank of Madras, Madras.

1870. G. ERNEST SHELLEY, F.Z.S., late Captain, Grenadier Guards; 10 Thurloe Square, S.W.

1865. Rev. CHARLES WILLIAM SHEPHERD, M.A., F.Z.S.; Trotters-cliffe Rectory, Maidstone, Kent.

1894. SEWALLIS EVELYN SHIRLEY; Ettington Park, Stratford-on-Avon.

1881. F. B. SIMSON, F.Z.S.; Broom Hill, Spratton, Northampton.

210 1882. Rev. HENRY H. SLATER, M.A., F.Z.S.; Thornhaugh Rectory, Wansford, Northants.

1864. Rev. ALFRED CHARLES SMITH, M.A.; Old Park, Devizes, Wilts.

1881. THOMAS SOUTHWELL, F.Z.S.; 10 The Crescent, Chapel Field, Norwich.

1893. SAMUEL S. STANLEY; 3 Regent Grove, Leamington, Warwickshire.

1875. A. C. STARK.

215 1889. WILLIAM STOATE; Belmont, Burnham, Somerset.

Date of
Election.

1893. CHARLES STONHAM, F.R.C.S., F.Z.S. ; 4 Harley Street, Cavendish Square, W.
1881. ROBERT WRIGHT STUDDY, Col. (late Manchester Regiment); Waddeton Court, Brixham, Devon.
1887. FREDERICK WILLIAM STYAN, F.Z.S. ; Ben Craig, Bayham Road, Sevenoaks, and Shanghai, China.
1887. JOHN SWINBURNE; Beauregard, Hauteville, Guernsey.
- 220 1882. CHARLES SWINHOE, Col. Bombay Staff Corps, M.A., F.L.S., F.Z.S. ; Avenue House, Cowley Road, Oxford.
1884. WILLIAM CHASTER TAIT, C.M.Z.S. ; Entre Quintas 155, Oporto, Portugal.
- *EDWARD CAVENDISH TAYLOR, M.A., F.Z.S. ; 74 Jermyn Street, S.W.
1873. WILLIAM BERNHARD TEGETMEIER, F.Z.S. ; 16 Alexandra Grove, North Finchley, N.
1889. EDWARD PRIAULX TENNANT; 40 Grosvenor Square, W., and The Glen, Innerleithen, N.B.
- 225 1886. HORACE A. TERRY, Captain (Oxfordshire Light Infantry); Burvale, Walton-on-Thames.
1891. WILLIAM BLUNDELL THORNHILL; Castle Cosey, Castle Bellingham, Ireland.
1893. DIXON L. THORPE; 41 Aglionby Street, Carlisle.
1894. NORMAN FREDERIC TICEHURST; Winstowe, St. Leonards-on-Sea.
- *REV. HENRY BAKER TRISTRAM, M.A., LL.D., F.R.S., C.M.Z.S., Canon of Durham; The College, Durham.
- 230 1864. HENRY MORRIS UPCHER, F.Z.S. ; Sheringham Hall, Norfolk, and Feltwell Hall, Brandon.
1894. RICHARD JOHN USSHER; Cappagh House, Cappagh, R.S.O., Lismore, Ireland.
1890. STEPHEN VENOUR; Fern Bank, Altrincham, Cheshire.
1884. A. S. VEREY; Heronsgate, near Rickmansworth.
1881. WILLIAM WILLOUGHBY COLE VERNER, Major (Rifle Brigade); Junior United Service Club, S.W.
- 235 1891. C. W. DE VIS, Queensland Museum, Brisbane; care of Williams and Norgate, 14 Henrietta Street, Covent Garden, W.C.
1886. H. D. WADE-DALTON, Col. ; Hauxwell Hall, Finghall, R.S.O., Yorkshire.
1881. THOMAS, Lord WALSINGHAM, F.R.S., F.Z.S. ; Merton Hall, Thetford, Norfolk.

Date of
Election.

1874. CHARLES BYGRAVE WHARTON, F.Z.S.; Hounsdown, Totton,
Hants.
1878. HENRY THORNTON WHARTON, M.A., F.Z.S.; Madresfield,
Acol Road, Priory Road, West Hampstead, N.W.
- 240 1891. BENJAMIN INGHAM WHITAKER; Hesley Hall, Tickhill, Rother-
ham.
1884. JOSEPH WHITAKER, F.Z.S.; Rainworth Lodge, Mansfield, Notts.
1891. JOSEPH J. S. WHITAKER; Malfitano, Palermo, Sicily.
1887. JEFFERY WHITEHEAD; Southwood, Bickley, Kent.
1894. JOHNSON WILKINSON; Huddersfield, Yorkshire.
- 245 1888. CHARLES JOSEPH WILSON; 16 Gordon Square, W.C.
1887. SCOTT BARCHARD WILSON, F.Z.S.; Heatherbank, Weybridge
Heath, Surrey.
1891. FRANK WITHINGTON; care of Messrs. Read and Campbell,
No. 4 San Juan de Letran, Mexico City, Mexico.
1894. WILLIAM VINCENT WOOD; 8 Castelbain Road, Maida Hill, W.
1875. CHARLES A. WRIGHT, F.L.S., F.Z.S. (Knight of the Crown of
Italy); Kayhough, Kew-Gardens Road, Kew, S.W.
- 250 1871. E. PERCEVAL WRIGHT, M.D., F.L.S., F.Z.S., Professor of Botany
in the University of Dublin.
1891. THOMAS WRIGHT, M.D.; Castle Place, Nottingham.
1876. CLAUDE W. WYATT; Adderbury, Banbury.
1889. JAMES B. YOUNG, Commander R.N.; Rodwell, Weymouth.
1878. JOHN YOUNG, F.L.S., F.Z.S.; 64 Hereford Road, Bayswater, W.
- 255 1877. JAMES HERBERT YULE, Lt.-Col. (2nd Bn. Devonshire Regi-
ment); 41 Eaton Rise, Ealing, W.

Extra-Ordinary Member.

1860. ALFRED RUSSEL WALLACE, F.Z.S.; Corfe View, Parkstone,
Dorset.

Honorary Members.

1886. THOMAS AYRES; Potchefstroom, *Transvaal*.
1890. Graf von BERLEPSCH, C.M.Z.S.; Münden, *Hanover*.
1860. Dr. JEAN CABANIS, C.M.Z.S., Friedrichshagen, bei *Berlin*.
1870. Dr. OTTO FINSCH, C.M.Z.S.; Delmenhorst, near *Bremen*.
- 5 1880. HEINRICH GÄTKE, C.M.Z.S., *Heligoland*.
1894. Dr. HENRY HILLYER GIGLIOLI, F.M.Z.S.; Reale Istituto di
Studi Superiori, *Florence*.
1860. Dr. GUSTAV HARTLAUB, F.M.Z.S., *Bremen*.

Date of
Election.

1860. EDGAR LEOPOLD LAYARD, C.M.G., F.Z.S., Budleigh Salterton,
Devonshire.
1893. DR. ANTON REICHENOW, C.M.Z.S.; Museum für Naturkunde,
Invalidenstrasse, *Berlin*.
- 10 1890. COUNT TOMMASO SALVADORI, M.D., F.M.Z.S.; Royal Zoological
Museum, *Turin*.

Foreign Members.

1890. JOEL ASAPH ALLEN, C.M.Z.S.; American Museum of
Natural History, Central Park, *New York*.
1872. Prof. J. V. BARBOZA DU BOCAGE, C.M.Z.S.; Royal Museum,
Lisbon.
1880. LOUIS BUREAU, M.D.; École de Médecine, *Nantes*.
1873. Prof. ROBERT COLLETT, F.M.Z.S.; Zoological Museum, *Christi-*
ania.
- 5 1872. DR. ELLIOTT COUES, C.M.Z.S.; Smithsonian Institution, *Wash-*
ington, D.C.
1875. MARCHESE GIACOMO DORIA, F.M.Z.S., *Genoa*.
1872. DR. VICTOR FATIO, C.M.Z.S., *Geneva*.
1872. GEORGE N. LAWRENCE, C.M.Z.S.; 45 East 21st Street, *New*
York.
1872. BARON DE SELYS LONGCHAMPS, *Liège*.
- 10 1866. DR. JULIUS VON MADARÁSZ; National Museum, *Buda-Pesth*.
1872. DR. A. J. MALMGREN, *Helsingfors, Finland*.
1883. Prof. OTHNIEL CHARLES MARSH, C.M.Z.S.; Yale College, *New-*
haven, U.S.A.
1894. Prof. DR. MICHAEL MENZBIER, C.M.Z.S.; Imperial Society of
Naturalists, *Moscow*.
1881. DR. ADOLPH BERNHARD MEYER, C.M.Z.S., Director of the Royal
Museum, *Dresden*.
- 15 1872. Prof. ALPHONSE MILNE-EDWARDS, F.M.Z.S.; Jardin des Plantes,
Paris.
1890. M. EMILE OUSTALET, C.M.Z.S.; Muséum d'Histoire Naturelle,
Jardin des Plantes, *Paris*.
1894. DR. THEODOR PLESKE, F.M.Z.S.; Imperial Zoological Museum,
St. Petersburg.
1872. Prof. GUSTAV RADDE, C.M.Z.S., *Tiflis*.
1880. ROBERT RIDGWAY, C.M.Z.S.; Smithsonian Institution, *Wash-*
ington, D.C.
- 20 1894. HERMAN SCHALOW; 105 Rathenowerstrasse, *Berlin, N.W.*

CONTENTS OF VOL. VI.—SIXTH SERIES.

(1894.)

NUMBER XXI., *January.*

	Page
I. Second List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. SHELLEY, F.Z.S. (Plates I. & II.)	1
II. On some Birds from Bugotu, Solomon Islands, and Santa Cruz. By H. B. TRISTRAM, D.D., F.R.S. (Plate III.) .	28
III. On the Taxonomy of the Swifts and Humming-birds : a Rejoinder. By Dr. R. W. SHUFELDT, C.M.Z.S.	32
IV. On the Birds of the Calcutta District. By PHILIP W. MUNN, M.B.O.U.	39
V. Notes on some Tunisian Birds. By J. I. S. WHITAKER, F.Z.S.	78
VI. On the Interbreeding of <i>Rhipidura fuliginosa</i> with <i>R. flabellifera</i> . By J. C. McLEAN.	100
VII. On the <i>Chrysotis canifrons</i> of Lawrence. By ERNST HARTERT	102
VIII. Ornithology at Munich, Stuttgart, Darmstadt, Frankfurt, and Cassel. By THE EDITOR.	106
IX. Description of a new Species of Grebe from Central Peru. By HANS, Graf von BERLEPSCH, and JEAN STOLZMANN. (Plate IV.)	109

	Page
X. Bulletin of the British Ornithologists' Club. Nos. XI.,	
XII.	113

XI. Notices of recent Ornithological Publications :—

1. Allen on the Birds of Matto Grosso	122
2. Blaauw's Comparative List of the Birds of Holland and England	123
3. Gadow's "Aves" in Bronn's 'Thier-Reich'	124
4. Gurney on an Immigration of the Lapland Bunting	125
5. Hasbrouck on Dichromatism in <i>Megascops</i>	125
6. Lewis on the Birds of Hertfordshire	126
7. Meyer's Illustrations of Birds' Skeletons	126
8. Meyer on the Birds of German New Guinea	126
9. Nehrling's North-American Birds	127
10. Newton and Gadow's Dictionary of Birds	128
11. Oustalet on Birds from India, Tibet, and China	129
12. Pavesi's Ornithological Calendar of Pavia	130
13. Reichenow's List of German Birds	130
14. Ridgway on two new Swifts	132
15. Ridgway on a new <i>Odontophorus</i>	132
16. Rothschild on the Avifauna of Laysan	132
17. Ryder on the Form of the Fowl's Egg	134
18. Selous on Mashunaland and its Birds	134
19. Shufeldt on a Hybrid Grouse	135
20. Trimen on the Vertebrates of the Cape Colony	135
21. Winge on Birds observed at the Danish Light-stations	135

XII. Letters, Extracts, Notices, &c. :—

Letters from Heer F. E. Blaauw and Mr. W. R. Ogilvie Grant. Report of the British Museum for 1892; <i>Otocorys</i> <i>penicillata</i> in Europe; Collectors in South America; The Systematic Position of <i>Æpyornis</i> ; The Manus of <i>Archæo-</i> <i>pteryx</i> . Obituary: Emin Pasha, Dr. George Bennett, Pastor Baldamus	136
---	-----

NUMBER XXII., *April*.

XIII. On the Birds of Uruguay. By O. V. APLIN. With an Introduction and Notes by P. L. SCLATER. (Plate V.) . . . 149

XIV. On some Birds collected in the Vicinity of Foochow. By C. B. RICKETT, F.Z.S. With Notes by HENRY H. SLATER . 215

XV. On a Birds'-nesting Excursion to the North of Norway in 1893. By HENRY J. PEARSON and EDWARD BIDWELL . . 226

XVI. On a Collection of Birds sent by Mr. Alfred H. Everett from the Sulu Archipelago. By R. BOWDLER SHARPE, LL.D., F.L.S., &c. (Plates VI. & VII.) 238

XVII. Descriptions of the Eggs of three Species of South Australian Parrakeets. By ALFRED J. NORTH, Assistant in Ornithology, Australian Museum, Sydney 259

XVIII. A few Observations on some Species of *Phylloscopus*. By W. EDWIN BROOKS 261

XIX. Note on the Aquatic Habits of the Chajá (*Chauna chavaria*). By R. LYDEKKER, F.Z.S. 268

XX. On the Occurrence of *Colymbus adamsi* in Norway. By Prof. R. COLLETT, F.M.Z.S. (Plate VIII.) 269

XXI. On the Scientific Names of the Imperial and Spotted Eagles and on the Generic Names of Bonelli's Eagle and the Black Eagle. By W. T. BLANFORD, F.R.S. 283

XXII. Bulletin of the British Ornithologists' Club. Nos. XIII.-XV. 290

XXIII. Notices of recent Ornithological Publications:—

22. Andrews on a new *Æpyornis* 303

23. Büttikofer on two new Birds from South Celebes . . 303

24. Büttikofer on a new *Pachycephala* 303

25. Büttikofer on two new *Stoparolæ* 304

26. Büttikofer on a new *Gerygone* 304

27. Büttikofer on new Birds from Java and Celebes . . 304

	Page
28. Büttikofer on two new Species of <i>Gerygone</i>	304
29. Dresser's 'Monograph of the Rollers'	304
30. Elliot's 'Monograph of the <i>Pittidae</i> '	305
31. Fowler on the Marsh-Warbler	305
32. Hartert's Remarks on German Birds	306
33. Hutton on the so-called <i>Dinornis qucenstandiæ</i>	306
34. Kaiser on the Birds of Sinai	307
35. Milne-Edwards and Grandidier on <i>Apyornis</i>	307
36. North on the Occurrence of the Corn-Crake in Australia	308
37. North on a new Australian Parrakeet	308
38. 'Novitates Zoologicæ.'—No. I.	308
39. Ogilvie-Grant on the Game Birds	309
40. Pycraft on the Barbs of Feathers	312
41. Reichenow on the Birds of Adeliland	312
42. Rhoads on <i>Parus hudsonicus</i> and its Allies	313
43. Richmond on Birds from Nicaragua and Costa Rica	313
44. Ridgway on new Birds from Aldabra and the adjoining Islands	314
45. Ridgway on some Costarican Birds	314
46. Ridgway on the Genus <i>Myiarchus</i>	314
47. Rothschild on the Avifauna of Laysan	315
48. Sharpe and Wyatt on the <i>Hirundinide</i>	315
49. Stejneger on Japanese Birds	316

XXIV. Letters, Extracts, Notices, &c.:—

Letters from Mr. John Whitehead, Mr. A. Everett, Heer F. E. Blaauw, Mr. L. W. Wigglesworth, the Rev. Canon Tristram, Dr. W. T. Blanford, Mr. E. Hartert, and Mr. W. P. Pycraft. The Structure and Variations of the Bird's-Egg; Dates of Publication of Jardine and Selby's 'Illustrations of Ornithology'; An extinct Apterygine Bird in Australia; Sale of a Great Auk's Egg; The Black Crow of Somaliland; Supposed new extinct Gigantic Bird in Australia; Mr. R. C. L. Perkins in the Sandwich Islands 316

NUMBER XXIII., *July*.

- XXV. Notes on the Ornithology of China. By F. W. STYAN, F.Z.S. (Plate IX.) 329
- XXVI. On the Chinese Species of the Genus *Suthora*. By HENRY SEEBOHM, F.Z.S. 338
- XXVII. A Contribution towards the Ornithology of West Jutland. By ALFRED CRAWHALL CHAPMAN 339
- XXVIII. On a Collection arranged to illustrate the General Characters of the Eggs of Birds. By Sir WILLIAM H. FLOWER, K.C.B., F.R.S. 351
- XXIX. On cases of Complete Fibulæ in existing Birds. By Dr. R. W. SHUFELDT, C.M.Z.S. 361
- XXX. List of Birds observed in Dras and Suru. By Lieut. W. WILFRID CORDEAUX, M.B.O.U. (Queen's Bays). 367
- XXXI. On the Crimson-headed Wood-Partridge (*Hematortyx sanguiniceps*). By W. R. OGILVIE GRANT. (Plate X.) . 374
- XXXII. On some new or little-known Shrikes from Central Asia. By M. MENZBIER, Professor of Zoology and Comparative Anatomy in the University of Moscow 378
- XXXIII. Remarks on some Specimens of Central-Asiatic Shrikes. By H. E. DRESSER, F.L.S., F.Z.S. 384
- XXXIV. Descriptions de quelques Espèces nouvelles d'Oiseaux du Pérou central. Par le COMTE HANS DE BERLEPSCH et JEAN STOLZMANN. (Plate XI.) 385
- XXXV. On the Birds of the Philippine Islands.—Part I. Mount Arajat, Central Luzon. By W. R. OGILVIE GRANT. With Field-Notes by JOHN WHITEHEAD 406
- XXXVI. On the Distribution of Genera and Species of Non-migratory Land-Birds in the Philippines. By J. B. STEERE, Professor of Zoology and Comparative Anatomy in the University of Michigan 411

XXXVII. Borncean Notes: No. II. By R. BOWDLER SHARPE, LL.D., F.L.S., &c.	421
---	-----

XXXVIII. Note on some newly-discovered Eggs of the Great Auk. By EDWARD BIDWELL	422
--	-----

XXXIX. Bulletin of the British Ornithologists' Club. Nos. XVI.-XVIII.	424
--	-----

XL. Notices of recent Ornithological Publications:—

50. Büttikofer on Birds from Celebes, Saleyer, and Flores	435
51. Chapman on the Birds of Trinidad	436
52. Clarke on the Persecution of the Great Skua . . .	437
53. Collett's Contributions to the Norwegian Avifauna .	437
54. Elliot's 'Monograph of the <i>Pittidae</i> '	438
55. Lansdell on Birds from Central Asia	439
56. Mathew on the Birds of Somerset	439
57. Meyer on new East-Indian Birds	440
58. Milne-Edwards on the extinct Birds of the Mascarene Islands and Madagascar	440
59. Milne-Edwards and Oustalet on recently extinct Birds.	440
60. Nelson and Palmer on new Birds from Mexico . .	441
61. Oustalet on <i>Drepanornis bruijnii</i>	441
62. Oustalet on new Birds in the Paris Collection . .	441
63. Ridgway on the Genus <i>Formicarius</i>	442
64. Ridgway on a new Storm-Petrel	442
65. Sharpe's 'Monograph of the <i>Paradiseidae</i> '	442
66. Sharpe on the <i>Fulicarie</i> and <i>Alectorides</i>	443
67. Stuhlmann on Emin Pasha's last Journey	445
68. Wilson and Evans's 'Aves Hawaiienses'	446
69. Wyatt's 'British Birds'	447

XLI. Letters, Extracts, Notices, &c.:—

Letters from Mr. Henry J. Pearson, Mr. William E. De Winton, Mr. J. Backhouse, Mr. Knud Andersen, Mr. C. C. Trowbridge, Mr. G. E. H. Barrett-Hamilton, and Mr. Robert Patterson. Great Bustard Breeding in Captivity; *Hirundo gutturalis* at Brighton; the *Nectarinia* of Mount Kenia; Marbled Duck in Bavaria; *Pelecanus crispus* in Italy; Tinamous as

Food; New Monograph of the Cranes; Patria of <i>Cacatua gymnopis</i> ; Ornithologists on their Travels; Anniversary Meeting of the British Ornithologists' Union, 1894; Rare Birds in the Museo Civico, Milan; Meeting of the German Ornithological Society. Obituary—Dr. A. v. Middendorff, Dr. L. v. Schrenck, and Herr Oberamtmann Ferdinand Heine	447
---	-----

NUMBER XXIV., *October.*

XLII. Third List of the Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. SHELLEY, F.Z.S. (Plate XII.)	461
---	-----

XLIII. On some Birds collected on Byingyi Mountain, Shan States, Burma. By EUGENE W. OATES, F.Z.S. (Plate XIII.)	478
--	-----

XLIV. On the Nesting of <i>Phibalura flavirostris</i> and <i>Lochmias nematura</i> . By Dr. EMIL A. GOELDI	484
--	-----

XLV. Remarks on the Birds of Antarctica. By P. L. SCLATER, M.A., Ph.D., F.R.S.	494
--	-----

XLVI. On the Birds of the Philippine Islands.—Part II. The Highlands of North Luzon, 5000 feet. By W. R. OGILVIE GRANT. With Field-Notes by JOHN WHITEHEAD. (Plates XIV. & XV.)	501
---	-----

XLVII. On a new Species of Fern-bird (<i>Sphenæacus</i>) from the Snares Islands. By Sir WALTER L. BULLER, K.C.M.G., Sc.D., F.R.S.	522
--	-----

XLVIII. Notes on the Indian Owls. By W. T. BLANFORD	524
---	-----

XLIX. On some Birds from the Island of Negros, Philippines. By WM. EAGLE CLARKE, F.L.S.	531
---	-----

L. On a new Species of Guinea-fowl. By W. R. OGILVIE GRANT	535
--	-----

LI. Bornean Notes: No. III. By R. BOWDLER SHARPE, LL.D., F.L.S., &c.	538
--	-----

	Page
LII. Bulletin of the British Ornithologists' Club. No. XIX.	546
LIII. Notices of recent Ornithological Publications :—	
70. Adair on the Short-eared Owl and Kestrel in the Vole-plague Districts of Scotland	552
71. Andersen on the Occurrence of <i>Ligurinus sinicus</i> in Denmark	552
72. 'Aquila,' a new Hungarian Journal of Ornithology .	553
73. Bower on the Birds of Tibet	553
74. Butler on the Distribution of Crossbills in North America	554
75. Collett on Bird-life in Arctic Norway	554
76. Dobie on the Birds of Cheshire, Denbighshire, and Flintshire	555
77. Elliot on the Life and Services of Audubon	556
78. Finsch on a rare Rail	556
79. Flower on the Arrangement of Museums	556
80. Hartert on the Mode of Flight of the Accipitres . .	557
81. Hudson on Lost British Birds	558
82. Jouy on Birds from Central Mexico	558
83. Lataste on Chilian Birds	559
84. Leverkühn on the Breeding of the <i>Crotophagide</i> . .	560
85. Meyer and Wiglesworth on new Birds from Celebes and its neighbourhood	560
86. Oustalet on a new Cassowary	560
87. Oustalet on new Birds from Congoland	560
88. Oustalet on Birds from the Algerian Sahara . . .	561
89. Oustalet on the Birds of Turkestan, Tibet, and Western China	561
90. Parrot on the Size of the Heart in Birds	562
91. Pycraft on the Wing of <i>Archæopteryx</i>	563
92. Ridgway on Birds from Alaska	563
93. Ridgway on a new <i>Geothlypis</i>	563
94. Salvadori on new Birds from New Guinea	563
95. Salvadori on Birds from Somali-land	564
96. Seebohm on the Distribution of British Birds . .	564
97. Sharpe's Handbook to the Birds of Great Britain .	565
98. Stone on the Genus <i>Anous</i>	567
99. Tschusi zu Schmidhoffen's List of his Memoirs . .	568
100. Wickmann on the Colour of Birds'-Eggs	568

LIV. Letters, Extracts, Notices, &c. :—

Letters from Mr. W. L. Distant ; Herr A. Nehrkorn ; Mr. W. R. Ogilvie Grant ; Dr. W. T. Blanford ; and Mr. Howard Saunders. The new extinct Gigantic Bird of Australia ; The Birds of Damma Island ; The Jackson-Harmsworth Polar Expedition ; The Destruction of Small Birds ; Mr. Cory's Collection of Birds. Obituary—Mr. Brian H. Hodgson, Dr. L. Coulon, and Mr. P. L. Jouy 569

Index of Scientific Names 583

Index of Contents 601

Titlepage, Preface, List of Members, and Contents.

General Index to the Sixth Series.

THE IBIS.

SIXTH SERIES.

No. XXI. JANUARY 1894.

I.—*Second List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland.* By Captain G. E. SHELLEY, F.Z.S.

(Plates I. & II.)

My first list of the birds of Nyasaland, which was published in this Journal last year (see Ibis, 1893, p. 1), contains the names of 134 species, 12 of which were described as new. One of these, *Hirundo astigma* (Ibis, 1893, p. 19), is the same as *H. emini*, Reichen. (J. f. O. 1892, pp. 30, 215), as I have ascertained by the examination of a typical specimen of that species lately received by the British Museum. I also find that no. 75 of my first list (p. 20) is not *Dryoscopus sticturus*, Finsch & Hartl., but *D. mossambicus*, Fischer & Reichen., and that no. 78 (p. 20) is not *Nilaus capensis*, but its more northern representative, *N. nigritemporalis*, Reichen.

My present list, which is based on two collections (of about 1030 specimens together) lately received by Mr. Selater from Mr. H. H. Johnston, C.B., having been made under his superintendence by Mr. Alexander Whyte, F.Z.S., contains the names of 205 species, of which 102 were not represented in Mr. Whyte's previous collections. Of these 102

species, no less than nine, which I have characterized as follows, appear to me to be new to science, namely:—

- | | |
|---|--|
| 1. <i>Prodotiscus zambesiæ</i> , p. 8. | 5. <i>Sylviella whytii</i> , p. 13. |
| 2. <i>Xenocichla milanjensis</i> , p. 9. | 6. <i>Laniarius bertrandi</i> , p. 15. |
| 3. <i>Phyllostrephus cerviniventris</i> ,
p. 10. | 7. <i>Hyphantornis nyassæ</i> , p. 20. |
| 4. <i>Andropadus zombensis</i> , p. 10. | 8. <i>Pyrenestes minor</i> , p. 20. |
| | 9. <i>Francolinus johnstoni</i> , p. 24. |

Besides these novelties I find in the series one species hitherto known only from West Africa; six which as yet have been found only in more northern portions of Eastern Africa; while two are southern species which are now recorded for the first time from the country north of the Zambesi.

1. MELIERAX GABAR.

Melierax gabar (Daud.); Shelley, *Ibis*, 1893, p. 6.

Zomba, Oct. An immature specimen.

2. ASTUR POLYZONOIDES.

Astur polyzonoides (Smith); Sharpe, *B. S. Afr.* pp. 22, 796;
id. *Cat. i.* p. 113.

Zomba, Nov. Both adult and immature specimens.

3. BUTEO DESERTORUM.

Buteo desertorum (Daud.); Sharpe, *B. S. Afr.* pp. 30, 797;
id. *Cat. i.* p. 179.

Zomba, July. One fine adult bird.

4. ASTURINULA MONOGRAMMICA.

Asturinula monogrammica, Temm.; Shelley, *l. c.* p. 6.

Zomba, Nov. Adult and young. It is curious that the young bird does not appear to have been hitherto described. The one sent by Mr. Whyte had been kept in a cage, and is nearly of the size and plumage of the adult, but has a good deal of brown on the chest and brown margins to many of the wing-coverts and scapulars; it has also two white bands on the tail instead of one.

5. LOPHOÆTUS OCCIPITALIS.

Lophoætus occipitalis (Daud.); Shelley, *l. c.* p. 6.

Zomba, Feb. and Nov. The former is an adult, the latter a young bird.

6. HALIAËTUS VOCIFER.

Haliaëtus vocifer (Daud.) ; Sharpe, B. S. Afr. pp. 46, 798 ;
id. Cat. i. p. 310.

Fort Johnston and Upper Shiré River, Nov. In adult and immature plumages.

7. MILVUS ÆGYPTIUS.

Milvus ægyptius (Gm.) ; Shelley, l. c. p. 7.

Zomba, Nov. An adult.

8. BAZA, sp. inc.

Zomba, Nov. The specimen is immature, and I am unable to say whether it should be referred to *B. verreauxi* or to *B. cuculoides*.

9. ELANUS CÆRULEUS.

Elanus cæruleus (Desf.) ; Sharpe, B. S. Afr. pp. 52, 798 ;
id. Cat. i. p. 336.

Zomba, Oct. ; Upper Shiré River, Nov.

10. PANDION HALIAËTUS.

Pandion haliaëtus (L.) ; Sharpe, B. S. Afr. pp. 68, 801 ;
id. Cat. i. p. 449.

Upper Shiré River, Nov.

11. BUBO MACULOSUS.

Bubo maculosus (Vicill.) ; Sharpe, B. S. Afr. pp. 73, 801 ;
id. Cat. i. p. 30.

Zomba, July and Jan. Mr. Whyte has now sent four examples of this Eagle-Owl, every one of them differing in plumage from dark grey to tawny buff in general tint. Even the grey phase, as illustrated by this series, has in some cases a more or less rufous tinge ; and at present there is no evidence of the existence of absolute grey or rufous phases in this species.

12. SYRNIUM WOODFORDI.

Syrnium woodfordi (Smith) ; Sharpe, B. S. Afr. pp. 76, 801 ; id. Cat. ii. p. 267.

Zomba, Nov., Dec. These two specimens are both immature.

13. GLAUCIDIUM CAPENSE.

Glaucidium capense (Smith) ; Shelley, l. c. p. 7.

Upper Shiré River, Nov. An adult bird.

14. GLAUCIDIUM PERLATUM.

Glaucidium perlatum (Vieill.) ; Sharpe, Cat. ii. p. 209.

Carine perlata, Sharpe, B. S. Afr. pp. 77, 802.

Zomba. The two specimens were reared from nestlings, and lived with Mr. Whyte for about five months. They have nearly uniform brown heads, like other young birds in the British Museum collection.

15. STRIX FLAMMEA.

Strix flammea, Linn. ; Sharpe, B. S. Afr. pp. 82, 802 ; id. Cat. ii. p. 291.

Zomba, Nov.

16. COSMETORNIS VEXILLARIUS.

Cosmetornis vexillarius (Gould) ; Shelley, l. c. p. 7.

Zomba and Milanji Plain, Aug.

17. CYPSELUS TOULSONI.

Micropus toulsoni (Bocage) ; Hartert, Cat. xvi. p. 453.

Zomba, Oct. A single immature specimen. This species was formerly only known from West Africa, from the Loango Coast and Angola.

18. MEROPS APIASTER.

Merops apiaster, Linn. ; Shelley, l. c. p. 7.

Zomba, Aug., Dec., Feb. Two specimens collected in August are in full moult, while two others procured in December and February are in full plumage.

19. MEROPS SUPERCILIOSUS.

Merops superciliosus, Linn. ; Shelley, l. c. p. 7.

Milanji Plains, Aug.

20. MEROPS NATALENSIS.

Merops nubicoides, Smith ; Sharpe, B. S. Afr. pp. 99, 804, pl. 4. fig. 2.

Merops natalensis, Reichenb. ; Sharpe, Cat. xvii. p. 84.

Tshiromo, Sept.

21. MELITTOPHAGUS ALBIFRONS.

Merops bullockoides, Smith ; Sharpe, B. S. Afr. p. 99, pl. 4. fig. 1.

Melittophagus albifrons (Finsch & Hartl.) ; Sharpe, Cat. xvii. p. 53.

Zomba, July ; Tshiromo, Sept.

22. MELITTOPHAGUS MERIDIONALIS.

Melittophagus meridionalis, Sharpe ; Shelley, l. c. p. 7.

Zomba, July, Aug. ; Upper Shiré River, Nov.

23. DICROCERCUS HIRUNDINACEUS.

Dicrocercus hirundinaceus, Vieill. ; Sharpe, B. S. Afr. pp. 101, 805 ; id. Cat. xvii. p. 43, pl. 1. fig. 1.

Zomba, July, Oct.

24. CORACIAS GARRULA.

Coracias garrula, Linn. ; Sharpe, B. S. Afr. pp. 102, 805 ; id. Cat. xvii. p. 15.

Lake Shirwa, Dec. An immature bird.

25. EURYSTOMUS AFER.

Eurystomus afer (Lath.) ; Shelley, l. c. p. 8.

Zomba, Aug. An adult bird.

26. HALALODERMA NARINA.

Hapaloderma narina (Steph.) ; Sharpe, B. S. Afr. pp. 106, 806 ; Grant, Cat. xvii. p. 477.

Zomba, Nov. An adult bird.

27. ALCEDO SEMITORQUATA.

Alcedo semitorquata (Swains.) ; Sharpe, B. S. Afr. pp. 107, 806 ; id. Cat. xvii. p. 153.

Zomba, Aug. An adult bird.

28. CORYTHORNIS CYANOSTIGMA.

Corythornis cyanostigma (Rüpp.) ; Sharpe, B. S. Afr. pp. 108, 806 ; id. Cat. xvii. p. 163.

Zomba, Aug., Nov. Adult birds.

29. CERYLE MAXIMA.

Ceryle maxima (Pall.) ; Sharpe, B. S. Afr. pp. 111, 807 ; id. Cat. xvii. p. 118.

Milanji Plain, Aug. An adult bird.

30. CERYLE RUDIS.

Ceryle rudis (Linn.); Shelley, l. c. p. 8.

Lake Shirwa, Dec. An adult male.

31. ISPIDINA NATALENSIS.

Ispidina natalensis (Smith); Sharpe, B. S. Afr. pp. 113, 807; id. Cat. xvii. p. 193.

Zomba, Aug., Nov. The August specimen is young; the November bird is adult.

32. HALCYON SEMICÆRULEA.

Halcyon semicærulea (Forsk.); Sharpe, B. S. Afr. pp. 114, 807; id. Cat. xvii. p. 232.

Zomba, Aug., Nov., Dec. Two are adults; the December bird is immature.

33. HALCYON ORIENTALIS.

Halcyon orientalis, Peters; Shelley, l. c. p. 8.

Zomba, August. A young bird.

34. HALCYON CHELICUTENSIS.

Halcyon chelicutensis (Stanl.); Shelley, l. c. p. 8.

Zomba, July, Aug., Nov. Adults. Mr. Whyte has also sent two eggs of this Kingfisher, taken along with a female bird. They are shining white, and measure—axis 0·95, diam. 0·85 inch.

35. BYCANISTES BUCCINATOR.

Buceros buccinator, Temm.; Sharpe, B. S. Afr. p. 125.

Bycanistes buccinator, Grant, Cat. xvii. p. 421.

Lake Shirwa. Four specimens.

36. LOPHOCEROS MELANOLEUCUS.

Tockus melanoleucus, Sharpe, B. S. Afr. p. 127.

Lophoceros melanoleucus (Licht.); Grant, Cat. xvii. p. 399.

Zomba, Nov.

37. UPUPA AFRICANA.

Upupa africana, Bechst.; Shelley, l. c. p. 8.

Tshiromo, Sept.

38. RHINOPOMASTES CYANOMELAS.

Rhinopomastes cyanomelas (Vicill.); Shelley, l. c. p. 8.

Zomba, Dec., Jan. The January bird is in immature plumage.

39. *GALLIREX CHLOROCHLAMYS*.

Gallirex chlorochlamys, Shelley ; Shelley, l. c. p. 9.

Zomba, July, Nov.

40. *TURACUS LIVINGSTONII*.

Turacus livingstonii (Gray) ; Shelley, l. c. p. 9.

Zomba, July, Sept., Nov. ; Milanji Hills, Sept.

41. *SCHIZORHIS CONCOLOR*.

Schizorhis concolor (Smith) ; Sharpe, B. S. Afr. pp. 144, 809 ; Shelley, Cat. xix. p. 453.

Upper Shiré River, Nov. Two adults.

42. *COLIUS ERYTHROMELON*.

Colius erythromelon, Vieill. ; Sharpe, B. S. Afr. pp. 551, 853 ; id. Cat. xvii. p. 344.

Tshiromo, Sept. An adult.

43. *COLIUS STRIATUS*.

Colius striatus, Gm. ; Sharpe, B. S. Afr. pp. 555, 853 ; id. Cat. xvii. p. 339.

Zomba, Aug. An adult.

44. *CUCULUS SOLITARIUS*.

Cuculus solitarius, Steph. ; Sharpe, B. S. Afr. pp. 149, 809 ; Shelley, Cat. xix. p. 258.

Zomba, Dec., Jan. Three adult specimens.

45. *CUCULUS CLAMOSUS*.

Cuculus clamosus, Lath. ; Shelley, l. c. p. 9.

Zomba, July, Nov., Feb. The specimen shot in February still bears traces of the immature plumage.

46. *CHRYSOCOCYX CUPREUS*.

Chrysococcyx cupreus (Bodd.) ; Shelley, l. c. p. 9.

Zomba, Aug., Dec. One of the specimens shot in December is young.

47. *CHRYSOCOCYX KLAASI*.

Chrysococcyx klaasi (Steph.) ; Shelley, l. c. p. 9.

Zomba, Aug.

48. *COCCYSTES CAFER*.

Coccytes cafer (Licht.) ; Shelley, l. c. p. 10.

Zomba, Dec.

49. COCCYSTES HYPOPINARIUS.

Coccytes hypopinarius, Cab. ; Shelley, l. c. p. 10.

Zomba, Dec. to Feb. In all there are five specimens, which vary slightly in the dusky colouring of the throat, but there can be no doubt that they all belong to *C. hypopinarius*, which is a very well-marked race.

50. CENTROPUS NATALENSIS.

Centropus natalensis, Shelley ; Shelley, l. c. p. 10.

Zomba, Dec. Two adult birds.

51. INDICATOR INDICATOR.

Indicator sparrmanni, Steph. ; Sharpe, B. S. Afr. pp. 166, 810.

Indicator indicator (Gm.) ; Shelley, Cat. xix. p. 5.

Zomba, Nov. Adult.

52. INDICATOR VARIEGATUS.

Indicator variegatus, Less. ; Shelley, Ibis, 1893, p. 10.

Zomba, July. Adult.

53. PRODOTISCUS ZAMBESIE, sp. n.

Zomba, Dec. Only one specimen.

Similis *P. insigni*, sed facie laterali et gutture pallidè cinereis, et abdomine, hypochondriis, et subcaudalibus albis distinguendus. Long. tot. 5·0 poll., alæ 2·8.

The type specimen is apparently not mature, but it differs from *P. insignis* in its ashy-grey throat and breast, this colour also prevailing on the head. These might be characters of immaturity only, but the whole of the abdomen and under tail-coverts are white instead of being dingy olive-brown, and this, I think, is a character which would hardly change with age and must consequently be specific.

54. MELANOBUCCO ZOMBÆ.

Melanobucco zombæ, Shelley, l. c. p. 10.

Zomba, July, Aug., Nov.

In the series of the species are two specimens which have faded red throats almost intermediate in colouring between typical specimens of *M. zombæ* and *M. torquatus*. The curious fact remains that the majority of the Zomba birds

are pale-spotted, and that no similar specimens have been seen from the countries south of the Zambesi.

55. *SMILORHIS WHYTII*.

Smilorhis whytii, Shelley, l. c. p. 11, pl. 1.

Zomba, Aug. to Nov.

56. *CAMPOTHERA ABINGDONI*.

Campothera abingdoni (Smith) ; Hargitt, Cat. xviii. p. 98.

Campothera abingtoni, Sharpe, B. S. Afr. p. 182.

Zomba, Feb. Two adult females.

57. *CAMPOTHERA CAILLIAUDI*.

Campothera cailliaudi (Malh.) ; Hargitt, Cat. xviii. p. 102.

Zomba, Nov., Jan., Feb. The specimens procured in November and January are both immature, while one obtained in February is an adult male.

58. *DENDROPICUS ZANZIBARI*.

Dendropicus zanzibari, Malh. ; Shelley, l. c. p. 12.

Zomba, July to Nov.

59. *PŒOCEPHALUS FUSCICAPILLUS*.

Pœocephalus fuscicapillus (Verr. & Des Murs) ; Shelley, l. c. p. 12.

Zomba, July, Aug. A series.

60. *TURDUS MILANJENSIS*.

Turdus milanjensis, Shelley, l. c. p. 12.

Milanji Hills, Sept.

61. *TURDUS LIBONIANUS*.

Turdus libonianus, Smith ; Shelley, l. c. p. 12.

Zomba, July to Dec. ; Tshiromo, Sept. The large series collected by Mr. Whyte includes some young birds procured in December.

62. *TURDUS GURNEYI*.

Turdus gurneyi, Hartl. ; Shelley, l. c. p. 13.

Milanji Hills, Sept. One adult bird.

63. *XENOCICHLA MILANJENSIS*, sp. n. (Plate I. fig. 1.)

Milanji Hills. A single specimen.

Similis *X. tephrolæmæ*, sed major, regione paroticâ albido

striatâ, abdomine magis viridi, et subalaribus minus flavicantibus distinguenda. Long. tot. 8·0 poll., alæ 3·65, caudæ 3·5, tarsi 1·0.

Although very similar in appearance to *X. tephrolæma* of the Camaroons, this species is at once distinguishable by its larger size and streaked ear-coverts. The abdomen and the quill-lining are much more green, and not yellow as in *X. tephrolæma*.

64. *XENOCICHLA FUSCICEPS*. (Plate I. fig. 2.)

Xenocichla fusciceps, Shelley, l. c. p. 13.

An additional specimen of this interesting species, obtained, like the former ones, on the Milanji plateau, in September.

65. *XENOCICHLA PLACIDA*.

Xenocichla placida, Shelley, P. Z. S. 1889, p. 363.

Zomba, July. The typical specimen of this species was procured by Mr. Hunter on Kilimanjaro. It is interesting to meet with a second specimen from so much further south.

66. *PHYLLOSTROPHUS CERVINIVENTRIS*, sp. n. (Plate II. fig. 1.)

Zomba, Aug. ; Tshiromo, Sept. Seven specimens.

Similis *P. fulviventri*, Cab., sed subalaribus cervino-isabellinis distinguendus. Long. tot. 7·6 poll., alæ 3·4, caudæ 3·6, tarsi 0·9.

In order to be quite certain that this species was distinct I sent a specimen to Dr. Reichenow, who kindly compared it for me with *P. fischeri* and *P. fulviventris*. It is distinguished from both, he tells me, by the colour of the under wing-coverts, which are light tawny or isabelline instead of yellow.

67. *ANDROPADUS ZOMBENSIS*, sp. n.

Zomba, July ; Milanji Hills, Sept.

Similis *A. virenti*, sed major, et corpore suprâ magis viridi, necnon gastræo pallide olivaceo-flavescente diversus. Long. tot. 7·3 poll., alæ 3·4, caudæ 3·6, tarsi 0·85.

Nearly allied to *A. virens* of West Africa, but larger and paler, and of a generally greener shade. Upper parts olive,

slightly shaded with brown on the upper tail-coverts and outer edges of the wing-feathers; tail coppery brown, with a strong wash of olive on the edges of the feathers; underparts nearly uniform pale olive-yellow; under wing-coverts like the breast; inner edges of the quills brownish white; bill dark brown; legs paler brown.

68. *ANDROPADUS OLEAGINUS*.

Andropadus hypoxanthus, Sharpe, B. S. Afr. p. 205.

Andropadus oleaginus, Peters; Sharpe, Cat. vi. p. 111.

Tshiromo, Sept.

69. *CRATEROPUS KIRKI*.

Crateropus kirki, Sharpe; Shelley, l. c. p. 13.

Zomba, July to Nov. and Jan. A large series.

70. *COSSYPHA HEUGLINI*.

Cossypha heuglini, Hartl.; Shelley, l. c. p. 14.

Zomba, July, Aug., Nov., Jan.

71. *COSSYPHA QUADRIVIRGATA*.

Cossypha quadrivirgata (Reichen.); Sharpe, Cat. vii. p. 43.

Tshiromo, Sept. An adult bird.

72. *CALLENE ANOMALA*.

Callene anomala, Shelley, l. c. p. 14.

Milanji Hills. An adult.

73. *CICHLADUSA ARCUATA*.

Cichladusa arcuata, Peters; Sharpe, B. S. Afr. p. 229; id. Cat. vii. p. 70.

Tshiromo, Sept. Three specimens.

74. *THAMNOLÆA SUBRUFIPENNIS*.

Thamnolæa subrufipennis, Reichen. J. f. O. 1887, p. 78.

Milanji Plain. A male and female. This is the most southern known locality for this species, which is replaced south of the Zambesi by the closely allied *T. cinnamomeiventris*.

75. SAXICOLA GALTONI.

Saxicola galtoni (Strickl.); Sharpe, B. S. Afr. pp. 234, 818; Seebohm, Cat. v. p. 390.

Zomba, July.

76. PRATINCOLA TORQUATA.

Pratincola torquata (Linn.); Shelley, l. c. p. 15.

Zomba, Aug.

77. ERYTHROPYGIA ZAMBESIANA.

Erythropygia zambesiana, Sharpe; Shelley, l. c. p. 15.

Zomba, July, Aug., Nov., Jan.

78. CISTICOLA CINERASCENS.

Cisticola cinerascens (Heugl.); Shelley, l. c. p. 15.

Zomba, Jan. Three specimens.

79. CISTICOLA ORIENTALIS.

Cisticola orientalis, Sharpe; Shelley, l. c. p. 15.

Zomba, July, Aug., Nov., Dec., Jan. A very large series.

80. CISTICOLA NATALENSIS.

Cisticola natalensis (Smith, Jan. 1843); Sharpe, B. S. Afr. p. 261; id. Cat. vii. p. 278.

Cisticola strangei (Fraser, Feb. 1843); Sharpe, Cat. vii. p. 276.

Zomba, Nov., Jan. Three adult specimens.

81. SCHÆNICOLA APICALIS.

Schœnicola apicalis (Cab.); Sharpe, Cat. vii. p. 110.

Catrisus apicalis, Sharpe, B. S. Afr. pp. 283, 825.

Zomba, Aug., Nov.

82. BRADYPTERUS BRACHYPTERUS.

Bradypterus brachypterus (Vicill.); Sharpe, B. S. Afr. pp. 286, 825; id. Cat. vii. p. 113.

Zomba, Aug.

83. BRADYPTERUS NYASSÆ.

Bradypterus nyassæ, Shelley, l. c. p. 16.

Zomba, Aug.

84. ACROCEPHALUS TURDOIDES.

Acrocephalus turdoides (Meyer) ; Seebohm, Cat. v. p. 95.

Acrocephalus fulvolateralis, Sharpe, B. S. Afr. pp. 289, 826.

Zomba, Jan. Two adult specimens.

85. EREMOMELA SCOTOPS.

Eremomela scotops, Sundev. ; Shelley, l. c. p. 16.

Zomba, July, Oct., Nov.

86. SYLVIELLA WHYTHI, sp. n.

Zomba, Aug., Nov.

Similis *S. rufescens*, sed minor, et rostro conspicuè brevior, regione paroticâ cervinâ et fasciâ fuscâ supra-auriculari nullâ distinguenda. Long. tot. 3·2 poll., alæ 3·15, caudæ 0·95, tarsi 0·7.

Similar to *S. rufescens*, but smaller and with a much shorter bill ; upper parts paler ashy brown, with a distinct olive shade on the back and tail ; underparts uniform rufous buff, slightly paler on the chin ; sides of the head uniform rufous buff, slightly more of a fawn-colour than the breast ; bill and legs pale brown.

To this species should be referred the *Sylviella micrura*, Shelley, Ibis, 1888, p. 299 (nec Rüpp.), from Manda Island near Lamu (*F. J. Jackson*).

87. SYLVIA HORTENSIS.

Sylvia salicaria (Linn.) ; Sharpe, B. S. Afr. pp. 504, 829.

Sylvia hortensis, Bechst. ; Seebohm, Cat. v. p. 10.

Zomba, Aug., Nov., Dec.

88. DAULIAS PHILOMELA.

Erithacus philomela (Bechst.) ; Seebohm, Cat. v. p. 295.

Zomba, Jan. This is an interesting winter habitat for this Nightingale.

89. CINNYRIS FALKENSTEINI.

Cinnyris falkensteini, Reichen. ; Shelley, l. c. p. 16.

Zomba, July, Aug., Sept.

90. CINNYRIS CUPREUS.

Cinnyris cupreus (Shaw) ; Shelley, l. c. p. 17.

Zomba, Sept.

91. CHALCOMITRA GUTTURALIS.

Chalcomitra gutturalis (Linn.) ; Shelley, l. c. p. 17.

Zomba, Aug., Nov., Jan.

92. ANTHOTHREPTES LONGUEMARII.

Anthothreptes longuemarii (Less.) ; Shelley, l. c. p. 17.

Zomba, Jan. Adult specimens.

93. ANTHOTHREPTES HYPODILUS.

Anthodiaeta zambesiana, Shelley ; Sharpe, B. S. Afr. p. 321.

Anthothreptes zambesiana, Gadow, Cat. ix. p. 117.

Zomba, July. An adult bird.

94. SALPORNIS SALVADORII.

Salpornis salvadorii (Bocage) ; Sharpe, B. S. Afr. p. 835 ;
Gadow, Cat. viii. p. 330.

Zomba, Aug.

95. MUSCICAPA GRISOLA.

Muscicapa grisola, Linn. ; Sharpe, B. S. Afr. pp. 338,
837 ; id. Cat. iv. p. 151.

Zomba, Nov. A single specimen.

96. MUSCICAPA CÆRULESCENS.

Muscicapa cærulescens, Hartl. ; Sharpe, B. S. Afr. p. 340 ;
id. Cat. iv. p. 154.

Zomba, July, Nov. Adult specimens.

97. POGONOCICHLA JOHNSTONI.

Pogonocichla johnstoni, Shelley, l. c. p. 18.

Milanji Hills, Sept.

98. SMITHORNIS CAPENSIS.

Smithornis capensis (Smith) ; Sharpe, B. S. Afr. p. 344 ;
id. Cat. iv. p. 388.

Zomba and Milanji Plains, Aug.

99. PLATYSTIRA PELTATA.

Platystira peltata, Sundev. ; Shelley, l. c. p. 18.

Zomba, July, Aug., Sept., Nov. ; Milanji Plains, Aug.

100. *PACHYPRORA MOLITOR*.

Pachyprora molitor (Hahn & Küster); Shelley, l. c. p. 18.
Zomba, Aug. All adult.

101. *TERPSIPHONE PERSPICILLATA*.

Terpsiphone perspicillata (Swains.); Shelley, l. c. p. 18.
Zomba, July, Aug., Nov., Jan.

102. *TROCHOCERCUS CYANOMELAS*.

Trochocercus cyanomelas (Vieill.); Sharpe, B. S. Afr.
p. 354; id. Cat. iv. p. 299.

Milanji Hills, Sept. An immature specimen.

103. *HIRUNDO RUSTICA*.

Hirundo rustica, Linn.; Sharpe, B. S. Afr. pp. 362, 840;
id. Cat. x. p. 128.

Upper Shiré River, Nov., Dec. Mr. Whyte procured a young bird in November, and three adults in December, the latter all moulting.

104. *HIRUNDO PUELLA*.

Hirundo puella, Temm.; Shelley, l. c. p. 19.
Zomba, Aug., Sept., Oct., Nov. All adults.

105. *LANIUS COLLARIS*.

Lanius collaris, Linn.; Shelley, l. c. p. 19.
Zomba, Aug., Jan. In this series there is a young bird
procured in January.

106. *ENNEOCTONUS COLLURIO*.

Enneoctonus collurio (Linn.); Shelley, l. c. p. 19.
Lake Shirwa, Dec. Two males in very worn plumage.

107. *LANIARIUS BERTRANDI*, sp. n. (Plate II. fig. 2.)

Milanji Hills, Sept.

Similis *L. rubiginoso*, sed fasciâ superciliari posticâ pallidè cinereâ, minimè albâ, distinguendus. Long. tot. 7·5 poll., culm. 0·65, alæ 3·35, caudæ 3·2, tarsi 1·0.

Very closely allied to *L. rubiginosus*, but readily to be distinguished from that bird in not having a white eye-brow, and in having the black on the head extending round the forehead between the grey and the white of the fore part of the head. I name this species after Capt. Bertram L.

Sclater, R.E., the Chief of Mr. Johnston's Staff, who visited the Milanji Hills in 1891 and 1892. See his article on routes and districts in Nyasaland (Journ. R. Geogr. Soc. 1893, p. 403).

108. *LANIARIUS SULPHUREIPECTUS*.

Laniarius sulphureipectus (Less.) ; Shelley, l. c. p. 20.

Zomba, July, Oct.

109. *LANIARIUS POLIOCEPHALUS*.

Laniarius poliocephalus (Licht.) ; Sharpe, B. S. Afr. pp. 387, 842 ; Gadow, Cat. viii. p. 156.

Zomba, Sept. to Nov. ; Upper Shiré River, Nov.

110. *NICATOR GULARIS*.

Nicator gularis, Finsch & Hartl. ; Gadow, Cat. viii. p. 167.

Laniarius gularis, Sharpe, B. S. Afr. p. 390.

Tshiromo, Sept.

111. *DRYOSCOPIUS CUBLA*.

Dryoscopus cubla (Shaw) ; Shelley, l. c. p. 20.

Zomba, July, Aug., Sept., Nov., Jan.

112. *DRYOSCOPIUS MOSSAMBICUS*.

Dryoscopus major mossambicus, Fischer & Reichen. J. f. O. 1880, p. 141.

Dryoscopus sticturus, Shelley (nec Finsch & Hartl.), l. c. p. 20.

Zomba, Aug., Oct., Nov., Feb. ; Milanji Plains, Aug. ; Tshiromo, Sept.

A large series of this form, in which, without exception, the white on the secondaries is confined to two of the wing-feathers. It is therefore, as I consider, separable from *D. sticturus*, Finsch & Hartl., of which the type is one of Chapman's specimens from Lake Ngami with white on three of the secondaries. This appears to be the common character of all specimens met with south of the Zambesi and Quanza rivers, but of very rare occurrence in examples from further north.

As regards this species and its allies, Dr. Hartlaub and Dr. Reichenow have given much attention to the subject, but

have apparently come to no very definite decision, so I trust I shall not appear presumptuous in endeavouring to characterize these species and in limiting the number to four:—*D. æthiopicus* (Gm. 1788); *D. mosambicus* (Fischer & Reichenow, 1880); *D. major* (Hartl. 1848); and *D. guttatus* (Hartl. 1865).

- a. Underparts more shaded with pink. (E. Africa.)
 - a'. With no white on the quills (type, Abyssinia), or with only one of the secondaries edged with white (Abyssinia and Bogos) *D. æthiopicus*.
 - b'. With broad white edges to two of the secondaries (type, Mozambique);=also *D. casatii*, Hartl., from Wadelai, and *D. albofasciatus*, Sharpe, from the Victoria Nyanza district. Occasionally the white edges are more faintly marked *D. mosambicus*.
- b. Underparts whiter. (W. & S. Africa.)
 - c'. Slightly larger, bill stronger. With broad white edges to two of the secondaries (type, Gold Coast, and including *D. picatus*, Hartl., from the Gaboon). In two specimens from the Gold Coast a third secondary is edged with white, and I should consider as another variety of this species the type of *D. bicolor*, Verr., from the Gaboon, with no white on the quills *D. major*.
 - d'. Slightly smaller, bill weaker. With broad white edges to two of the secondaries (type, Benguela), but more generally with broad white edges to three of the secondaries, as in the types of *D. sticturus*, Finsch & Hartlaub, from Lake Ngami, and *D. neglectus* and *D. finschi*, Bocage, from Benguela *D. guttatus*.

With regard to the geographical distribution of these species, *D. æthiopicus* is apparently confined to the Abyssinian and Shoan districts of N.E. Africa; *D. mosambicus* ranges over East Africa from the Upper White Nile and the Niam-niam country to the Zambesi; *D. major* is confined to West Africa, north of the Quanza River; and *D. guttatus* is found only to the south of the Quanza and Zambesi.

113. TELEPHONUS SENEGALUS.

Telephonus senegalus (Linn.) ; Shelley, l. c. p. 20.

Zomba, Aug. to Jan. A very large series.

114. TELEPHONUS ANCHIETÆ.

Telephonus anchietæ, Bocage ; Shelley, l. c. p. 20.

Zomba, July, Aug., Dec., March. Adults of both sexes.

115. NILAUS NIGRITEMPORALIS.

Nilaus nigritemporalis, Reichen. J. f. O. 1892, p. 36.

Nilaus capensis (nec Shaw) ; Shelley, l. c. p. 20.

Zomba, July to Nov. A series of specimens. Zomba is the most southern known locality for this species, which appears to be entirely replaced south of the Zambesi by *N. capensis*.

116. CAMPOPHAGA NIGRA.

Campophaga nigra, Vieill. ; Shelley, l. c. p. 20.

Zomba, July, Aug., Nov. ; Milanji Plains, Aug.

117. GRAUCALUS PECTORALIS.

Graucalus pectoralis, Jard. & Selby ; Shelley, l. c. p. 21.

Zomba, Aug.

118. BRADYORNIS PALLIDUS.

Bradyornis pallidus (Von Müll.) ; Shelley, l. c. p. 21.

Zomba, July, Aug., Sept., Jan., Febr.

119. BRADYORNIS ATER.

Bradyornis ater, Sundev. ; Shelley, l. c. p. 21.

Zomba, July.

120. SIGMODUS TRICOLOR.

Sigmodus tricolor (Gray) ; Shelley, l. c. p. 21.

Zomba, Nov., Dec., Jan.

Young birds procured in November differ from the adults in being browner and in having white edges to the feathers, most broadly marked on the wing-coverts and on some of the breast-feathers.

121. BUCHANGA ASSIMILIS.

Buchanga assimilis (Bechst.) ; Shelley, l. c. p. 21.

Zomba, Aug., Dec., Feb. A young bird procured in February.

122. *ORIOLOUS NOTATUS*.

Oriolus notatus, Peters ; Sharpe, B. S. Afr. pp. 412, 845 ;
id. Cat. iii. p. 196.
Zomba, July, Aug.

123. *ORIOLOUS LARVATUS*.

Oriolus larvatus, Licht. ; Shelley, l. c. p. 22.
Zomba, July, Aug., Nov., March.

124. *CORVUS SCAPULATUS*.

Corvus scapulatus, Daud. ; Sharpe, B. S. Afr. pp. 416,
845 ; id. Cat. iii. p. 22.
Tshiromo, Sept.

125. *LAMPROCOLIUS SYCOBIUS*.

Lamprocolius sycobius (Licht.) ; Shelley, l. c. p. 22.
Zomba, July, Aug.

126. *PHOLIDAUGES VERREAUXI*.

Pholidauges verreauxi, Bocage ; Shelley, l. c. p. 22.
Zomba, Aug., Sept., Febr.

127. *AMYDRUS MORIO*.

Amydrus morio (Linn.) ; Shelley, l. c. p. 22.
Zomba, Jan. ; Milanji Hills, Sept. Examples of both
sexes in full plumage.

128. *SYCOBROTUS STICTIFRONS*.

Sycobrotus stictifrons (Fischer & Reichen.) ; Shelley, l. c.
p. 22.
Zomba, Nov. ; Tshiromo, Sept.

129. *SITAGRA OCULARIA*.

Sitagra ocularius (Smith) ; Shelley, l. c. p. 23.
Zomba, July ; Tshiromo, Sept.

130. *HYPHANTORNIS NIGRICEPS*.

Hyphantornis nigriceps, Layard ; Shelley, l. c. p. 23.
Tshiromo, Sept.

131. *HYPHANTORNIS XANTHOPS*.

Hyphantornis xanthops, Hartl. ; Shelley, l. c. p. 23.
Zomba, July, Aug., Dec., Febr. A large series.

132. *HYPHANTORNIS VELATUS*.

Hyphantornis velatus (Vieill.) ; Sharpe, B. S. Afr. pp. 439, 847 ; id. Cat. xiii. p. 464.

Zomba, Feb. Two adult males.

133. *HYPHANTORNIS BERTRANDI*.

Hyphantornis bertrandi, Shelley, l. c. p. 23, pl. 2.

Zomba, July. An adult male.

134. *HYPHANTORNIS NYASÆ*, sp. n.

Zomba, Aug., Dec., Jan. ; Milanji Plains, Aug.

Similis *H. melanocephalæ*, sed conspicuè major, et nigredine gulæ magis restrictâ, haud ad pectus extendente. Long. tot. 6·7 poll., culm. 0·8, alæ 3·1, caudæ 2·5, tarsi 0·9.

Similar in general plumage to *H. melanocephala*, but with the whole of the upper parts of a much more olive shade, and the black upper throat ending in an abrupt line. In these last two characters, as well as in the measurements, it agrees with *H. bertrandi* ; but differs from that species in having the entire head black.

135. *HYPHANTORNIS CABANISI*.

Hyphantornis cabanisi, Peters ; Shelley, l. c. p. 24.

Tshiromo, Sept. A single immature specimen, probably of this species.

136. *PYRENESTES MINOR*, sp. n.

Zomba and Milanji Plains. Two apparently adult birds.

Similis *P. coccineo*, sed minor et pallidior, et capitis colore coccineo magis restricto distinguendus. Long. tot. 5·2 poll., culm. 0·4, alæ 2·2, caudæ 2·1, tarsi 0·7.

Resembles *P. coccineus* in general appearance, but is slightly smaller, with the brown of the plumage paler and less rufous. The bright glossy scarlet is confined to the front half of the head, the upper throat, upper tail-coverts, and tail ; bill deep glossy blue, legs brown.

137. *AMBLYOSPIZA ALBIFRONS*.

Amblyospiza albifrons (Vigors) ; Shelley, l. c. p. 25.

Milanji Plains, Aug.

138. STEGANURA PARADISEA.

Steganura paradisea (Linn.) ; Sharpe, Cat. xiii. p. 211.

Vidua verreauxi, Cass. ; Sharpe, B. S. Afr. pp. 452, 848.

Zomba, July to Oct.

139. VIDUA PRINCIPALIS.

Vidua principalis (Linn.) ; Shelley, l. c. p. 25.

Zomba, July to January.

140. PENTHETRIA ARDENS.

Penthetria ardens (Bodd.) ; Shelley, l. c. p. 25.

Zomba, July to Dec.

141. AMAURESTES FRINGILLOIDES.

Amaurestes fringilloides (Lafr.) ; Sharpe. Cat. xiii. p. 267.

Zomba, July.

142. SPERMESTES SCUTATA.

Spermestes scutata (Heugl.) ; Sharpe, Cat. xiii. p. 265.

Spermestes cucullata (nec Swains.) ; Sharpe, B. S. Afr.

p. 456.

Zomba, July to Nov.

143. HYPOCHERA FUNEREA.

Hypochera funerea (De Tarrag.) ; Sharpe, Cat. xiii. p. 310.

Hypochera ultramarina, Hartl. ; Sharpe, B. S. Afr. p. 457.

Zomba, July to Sept.

144. PYROMELANA FLAMMICEPS.

Pyromelana flammiceps (Swains.) ; Shelley, l. c. p. 25.

Zomba, July to November. A large series in the brown plumage : one only, procured in November, has assumed the red nuptial dress.

145. PYROMELANA NIGRIFRONS.

Pyromelana nigrifrons, Böhm ; Shelley, l. c. p. 25.

Zomba, July to Sept. All in the brown plumage.

146. PYROMELANA XANTHOMELÆNA.

Pyromelana xanthomelæna (Rüpp.) ; Shelley, l. c. p. 25.

Zomba, July to Feb. In brown plumage from July to August, in which latter month they begin to assume their breeding plumage.

147. ZONOGASTRIS MELBA.

Zonogastris melba (Linn.) ; Sharpe, Cat. xiii. p. 296.

Pytelia melba, Sharpe, B. S. Afr. p. 468.

Tshiromo, Sept.

148. PYTELIA AFRA.

Pytelia afra (Gm.) ; Shelley, l. c. p. 26.

Zomba, July to Nov.

149. ESTRILDA MINOR.

Estrilda minor (Cab.) ; Shelley, l. c. p. 26.

Zomba, July to Nov. ; Milanji Plain, Aug. to Oct.

150. LAGONOSTICTA RHODOPARIA.

Lagonosticta rhodoparia, Heugl. ; Shelley, l. c. p. 26.

Zomba, July to Nov. Three specimens.

151. LAGONOSTICTA NIVEIGUTTATA.

Lagonosticta niveiguttata (Peters) ; Shelley, l. c. p. 27.

Zomba, Nov. ; Milanji Plains, Aug.

152. PASSER DIFFUSUS.

Passer diffusus, Smith ; Sharpe, B. S. Afr. pp. 480, 850 ;
id. Cat. xii. pp. 336, 827.

Zomba, Nov. An adult bird.

153. PETRONIA PETRONELLA.

Petronia petronella (Licht.) ; Shelley, l. c. p. 27.

Zomba. A young bird.

154. SERINUS ICTERUS.

Serinus icterus (Vieill.) ; Sharpe, Cat. xii. pp. 356, 828.

Crithagra ictera, Sharpe, B. S. Afr. pp. 484, 850.

Zomba, July.

155. SERINUS IMBERBIS.

Serinus imberbis (Cab.) ; Sharpe, Cat. xii. p. 355.

Crithagra chloropsis (nec Bp.) ; Sharpe, B. S. Afr. p. 486.

Zomba, July.

156. SERINUS SCOTOPS.

Serinus scotops (Sundev.) ; Sharpe, Cat. xii. p. 362.

Crithagra scotops, Sharpe, B. S. Afr. pp. 487, 850.

Zomba, July.

157. FRINGILLARIA TAHAPISI.

Fringillaria tahapisi (Smith) ; Sharpe, B. S. Afr. pp. 490, 851 ; id. Cat. xii. p. 558.

Zomba, Aug.

158. EMBERIZA FLAVIVENTRIS.

Emberiza flaviventris (Vieill.) ; Shelley, l. c. p. 27.

Zomba, July to Jan.

159. EMBERIZA ORIENTALIS.

Emberiza orientalis (Shelley) ; Shelley, l. c. p. 27.

Zomba, Aug. to Jan. A large series.

160. MIRAFA FISCHERI.

Mirafra fischeri (Reichen.) ; Sharpe, Cat. xiii. p. 600.

Mirafra apiata, Sharpe, B. S. Afr. p. 851.

Zomba and Lake Shirwa.

161. MACRONYX CROCEUS.

Macronyx croceus (Vieill.) ; Shelley, l. c. p. 27.

Tshiromo, Sept.

162. ANTHUS LINEIVENTRIS.

Anthus lineiventris, Sundev. ; Sharpe, B. S. Afr. pp. 540, 852 ; id. Cat. x. p. 540.

Zomba, Aug.

163. ANTHUS RUFULUS.

Anthus rufulus, Vieill. ; Shelley, l. c. p. 27.

Milanji Hills, Sept.

164. MOTACILLA LONGICAUDA.

Motacilla longicauda, Rüpp. ; Shelley, l. c. p. 27.

Zomba, Aug.

165. MOTACILLA VIDUA.

Motacilla vidua, Sundev. ; Sharpe, B. S. Afr. pp. 543, 853 ; id. Cat. x. p. 488.

Mr. Whyte writes : " This is the common Wagtail at Fort Johnston on the Upper Shiré. It is quite tame all about the station, where it is the only familiar bird ; it has a sweet note."

166. TRERON DELALANDII.

Treron delalandii (Bp.) ; Shelley, l. c. p. 28.

Zomba, July to Feb.

167. *PALUMBUS ARQUATRIX.*

Palumbus arquatrix (Temm. & Knip); Shelley, l. c. p. 28.
Zomba, Nov.; Milanji Hills, Sept.

168. *HAPLOPELIA JOHNSTONI.*

Haplopelia johnstoni, Shelley, l. c. p. 28, pl. 3.
Zomba, Aug.; Milanji Hills, Sept.

169. *TURTUR SEMITORQUATUS.*

Turtur semitorquatus (Rüpp.); Shelley, l. c. p. 28.
Zomba, Aug.

170. *TURTUR CAPICOLA.*

Turtur capicola (Sundev.); Shelley, l. c. p. 28.
Zomba, Aug., Nov., Dec.; Upper Shiré River, Nov.

171. *CHALCOPELIA AFRA.*

Chalcopelia afra (Linn.); Shelley, Ibis, 1883, p. 323;
Sharpe, B. S. Afr. p. 570.
Zomba, Nov., Feb.

172. *PTEROCLES GUTTURALIS.*

Pterocles gutturalis, Smith; Sharpe, B. S. Afr. p. 577.
Chisila River Plains, near Lake Mweru, Oct.

This specimen was probably obtained by Mr. Alfred Sharpe, who has sent to Mr. Selater a collection of mammal-skins and heads from the same district.

173. *PTERNISTES HUMBOLDTI.*

Pternistes humboldti (Peters); Sharpe, B. S. Afr. p. 589;
Ogilvie Grant, Cat. xxii. p. 176.
Upper Shiré River, Nov.

174. *FRANCOLINUS JOHNSTONI*, sp. n.

Zomba, ♂, Oct.; Milanji Hills, ♀, Sept.

F. similis F. hildebrandti, sed saturatior et minus rufescens: maculis nigris longitudinalibus latis et integris nec binis distinguendus. Long. tot. 13·7 poll., culm. 1·15, alæ 6·9, caudæ 1·4, tarsi 1·6.

Adult male. Very similar to the male of *F. hildebrandti* (*F. altumi*, F. & R.), but differs in the general shade of the upper parts being darker and less rufous, and more especially

in the feathers of the throat and chest having uninterrupted dark shaft-stripes, which do not extend over more than one-third of the feather, except on the crop, where these black bands are wider; the legs apparently bright orange.

Adult female. Similar to the type of *F. hildebrandti*, but decidedly duller and darker.

I name this fine Francolin after Mr. H. H. Johnston, C.B., F.Z.S., to whose scientific zeal we owe the zoological exploration of Nyasaland.

175. *TURNIX LEPURANA.*

Turnix lepurana (Smith); Sharpe, B. S. Afr. p. 608; Ogilvie Grant, Cat. xxii. p. 539.

Zomba, Oct., Nov. A rare species here, according to Mr. Whyte.

176. *LIMNOCORAX NIGER.*

Limnocorax niger (Licht.); Shelley, l. c. p. 29.

Zomba, Sept.; Upper Shiré River, Nov.

177. *ÆDIGNEMUS CAPENSIS.*

Ædignemus capensis, Licht.; Sharpe, B. S. Afr. pp. 645, 855; Seebohm, Geogr. Distrib. Charadr. p. 81.

Tshiromo, Sept.

178. *PARRA AFRICANA.*

Parra africana, Gm.; Sharpe, B. S. Afr. p. 648.

Tshiromo, Sept.; Upper Shiré River, Nov.; Lake Shirwa, Dec.

179. *GLAREOLA PRATINCOLA.*

Glareola pratincola, Linn.; Sharpe, B. S. Afr. p. 652; Seebohm, Geogr. Distrib. Charadr. p. 256.

Upper Shiré River, Nov.; Lake Shirwa, Dec. One of the specimens procured in December is a young bird.

180. *CUSORIOUS CHALCOPTERUS.*

Cursorius chalcopterus, Temm.; Sharpe, B. S. Afr. p. 656; Seebohm, Geogr. Distrib. Charadr. p. 246.

Tshiromo, Sept.

181. CHARADRIUS TRICOLLARIS.

Charadrius tricollaris, Vieill. ; Seebohm, Geogr. Distrib. Charadr. p. 134.

Ægialitis tricollaris, Sharpe, B. S. Afr. p. 662.

Tshiromo, Sept.

182. LOBIVANELLUS SENEGALUS.

Lobivanellus senegalus (Linn.) ; Sharpe, B. S. Afr. pp. 666, 855.

Lobivanellus senegalensis, Seebohm, Geogr. Dist. Char. p. 191.

Upper Shiré River, Nov.

183. LOBIVANELLUS ALBICEPS.

Lobivanellus albiceps, Gould ; Sharpe, B. S. Afr. pp. 667, 855 ; Seebohm, Geogr. Distrib. Charadr. p. 198, pl. 8.

Tshiromo, Sept. ; Upper Shiré River, Nov.

184. VANELLUS INORNATUS.

Vanellus inornatus, Swains. ; Shelley, l. c. p. 29.

Tshiromo, Sept.

185. GALLINAGO ÆQUATORIALIS, Rüpp.

Scolopax æquatorialis (Rüpp.) ; Seebohm, Geogr. Distrib. Charadr. p. 500.

Gallinago nigripennis, Bp. ; Sharpe, B. S. Afr. p. 676.

Fort Johnston, Upper Shiré Valley. Procured by Dr. Watson.

186. RHYNCHÆA CAPENSIS.

Rhynchæa capensis (Linn.) ; Sharpe, B. S. Afr. pp. 679, 855 ; Seebohm, Geogr. Distrib. Charadr. p. 456.

Fort Johnston, Upper Shiré Valley. Also shot by Dr. Watson.

187. TRINGA SUBARQUATA.

Tringa subarquata, Gouldenst. ; Sharpe, B. S. Afr. p. 682 ; Seebohm, Geogr. Distrib. Charadr. p. 419.

Lake Shirwa, Dec., Jan.

188. MACHETES PUGNAX.

Machetes pugnax (Linn.) ; Sharpe, B. S. Afr. p. 685.

Totanus pugnax, Seebohm, Geogr. Distrib. Charadr. p. 373.

Lake Shirwa, Dec. Four birds in winter plumage.

189. TRINGOIDES HYPOLEUCUS.

Tringoides hypoleucus (Linn.); Sharpe, B. S. Afr. p. 686.

Totanus hypoleucus, Seebohm, Geogr. Distrib. Charadr.

p. 371.

Upper Shiré River, Nov.

190. TOTANUS GLAREOLA.

Totanus glareola (Linn.); Sharpe, B. S. Afr. p. 690 ;

Seebohm, Geogr. Distrib. Charadr. p. 365.

Lake Shirwa. An immature bird.

191. LARUS PHÆOCEPHALUS.

Larus phæocephalus, Swains. ; Sharpe, B. S. Afr. p. 698.

Lake Shirwa. Four specimens.

192. HYDROCHELIDON LEUCOPTERA.

Hydrochelidon leucoptera (Meisn.); Sharpe, B. S. Afr.

p. 700.

Lake Shirwa, Dec. Four immature birds.

193. ARDEA GOLIATH.

Ardea goliath, Temm. ; Sharpe, B. S. Afr. p. 707.

Upper Shiré River.

194. ARDEA MELANOCEPHALA.

Ardea melanocephala, Vig. & Childr. ; Sharpe, B. S. Afr.

p. 709.

Upper Shiré River.

195. ARDEA PURPUREA.

Ardea purpurea, Linn. ; Sharpe, B. S. Afr. p. 710.

Upper Shiré River.

196. ARDEA ARDESIACA.

Ardea ardesiaca, Wagl. ; Sharpe, B. S. Afr. p. 712.

Lake Shirwa. Four specimens.

197. ARDEOLA COMATA.

Ardeola comata (Pall.) ; Sharpe, B. S. Afr. p. 718.

Zomba, July ; Upper Shiré River, Nov.

198. NYCTICORAX GRISEUS.

Nycticorax griseus (Linn.) ; Shelley, l. c. p. 29.

Upper Shiré River.

199. *DENDROCYGNA VIDUATA*.

Dendrocygna viduata (Linn.) ; Sharpe, B. S. Afr. p. 751.
Lake Shirwa, Dec.

200. *DENDROCYGNA FULVA*.

Dendrocygna fulva (Gm.) ; Heugl. Orn. N.O.-Afr. iv.
p. 1301.

Lake Shirwa, Dec. Four specimens. This is the first instance I know of this species being found so far south.

201. *PÆCILONETTA ERYTHORHYNCHA*.

Pæcilonetta erythrorhyncha (Gm.) ; Sharpe, B. S. Afr.
p. 754.

Lake Shirwa, Dec. Four specimens.

202. *ANAS SPARSA*.

Anas sparsa, Smith ; Sharpe, B. S. Afr. p. 756.
Zomba, Oct.

203. *QUERQUEDULA HOTTENTOTTA*.

Querquedula hottentotta, Smith ; Sharpe, B. S. Afr. p. 757.
Lake Shirwa, Dec. Two specimens.

204. *PHALACROCORAX AFRICANUS*.

Phalacrocorax africanus (Gm.) ; Sharpe, B. S. Afr. p. 781.
Upper Shiré River, Nov. ; Lake Shirwa, Dec. The specimen obtained in December is a young bird.

205. *PLOTUS LEVAILLANTI*.

Plotus levaillanti, Licht. ; Sharpe, B. S. Afr. p. 782.
Upper Shiré River, Nov.

II.—On some Birds from Bugotu, Solomon Islands, and Santa Cruz. By H. B. TRISTRAM, D.D., F.R.S.

(Plate III.)

THROUGH the kind assistance of my friend Dr. P. H. Metcalfe, I have received two small collections of birds from the Solomon group and its vicinity : one from Santa Cruz, collected for me by Mr. Forrest, of the Melanesian Mission, and the other from Bugotu, collected by the Rev. Dr. Welchman.

Both collections, though small, add to our previous knowledge of the avifauna of these islands; and as there are some birds among them which appear to be hitherto undescribed, I venture to send a list of the species, with descriptions and notes.

I. BIRDS FROM BUGOTU.

There are a few specimens belonging to species included in the list from Bugotu which I published last year (Ibis, 1892, p. 293). There are examples of my new species *Graucalus nigrifrons*, also of *Gr. elegans*, Rams., *Pachycephala astrolabi*, Hombr. & Jacq., *Monarcha castaneiventris*, Verr., *Myiagra ferrocyanea*, Rams., *Myzomela lafargii*, Hombr. & Jacq., *Calornis metallica* (Temm.); all these were also included in last year's consignment.

The following are additions to the Bugotu list:—

1. MONARCHA BRODIEI, Rams.

Native name "Biubirukoilo."

2. DICÆUM ÆNEUM, Jacq. & Puch.

Native name "Piu."

3. CALORNIS CANTOROIDES, Gr.

Native name "Gothe."

4. ZOSTEROPS METCALFII, sp. nov. (Plate III. fig. 1.)

Native name "Ngeu."

Z. capite et corpore toto superiore lætè olivaceis: remigibus et rectricibus fuscis, pogoniis externis olivaceis: loris nigris: annulo conspicuo sericeo oculos cingente: mento, thorace, et summo pectore flavis: imo pectore albo, cinereo ad umbrato: abdomine albo: subcaudalibus flavis: rostro, tarsis, et pedibus brunneis.

Long. tot. 4·5 poll., alæ 2·5, caudæ 1·7, tarsi ·7.

This *Zosterops* belongs to the large group with the yellow throat and white or whitish abdomen. Its nearest allies are *Z. griseiventer* and *Z. novæ-guinææ*, from the former of which it may easily be distinguished by its much larger size, and by the flanks being white instead of dull ashy; and from the latter by its larger size, the purity of its white flanks, and its paler yellow throat.

The collection contains two specimens. I have much pleasure in naming this new species after my friend Dr. P. H. Metcalfe, to whose kind assistance I am so deeply indebted.

As a companion to this bird I give a figure (Pl. III. fig. 2) of *Zosterops rendoræ*, of Rendova Island in the same group, which I described in 'The Ibis' for 1882, p. 135. Concerning this species see also Dr. Gadow, Cat. Birds, vol. ix. p. 188.

5. *MACROCORAX VEGETUS*, sp. nov.

Native name "Aao."

Macrocoraci woodfordi simillima, magnitudine exceptâ: niger: capite, collo, et pectore viridi-nitente, corpore toto suprâ purpureo-nitente: rostro carneo, apice nigro: tarsis et pedibus nigris.

Long. tot. 18·6 poll., alæ 12·0, caudæ 6·3, tarsi 2·1, rostri à rictu 2·6, culm. alt. 1·2.

For comparison, I subjoin the measurements of *M. woodfordi*:—Long. tot. 15·5 poll., alæ 10·3, caudæ 5, tarsi 2, rostri 2·3.

The difference in size, to all appearance, is as great as that between a Rook and a Jackdaw. The culmen is very much more arched, and the bill out of all proportion more massive than in *M. woodfordi*.

6. *EOS CARDINALIS* (Bodd.).

Native name "Siviri."

7. *TRICHOGLOSSUS MASSENA*, Bp.

Native name "Kuliri."

8. *HALCYON LEUCOPYGIA*, Verr.

Native name "Jojobana."

9. *HALCYON SACRA* (Gm.).

10. *UROSPIZIAS*, sp. inc.

Native name "Tuitui."

This bird, a young female, I have not yet been able to identify satisfactorily, but I believe it will prove to be *U. etorques*, Salvad.

11. *ANOUS MELANOGENYS* (Gr.).

Native name "Manubo."

II. BIRDS FROM SANTA CRUZ ISLAND.

This collection consists of twenty specimens, representing eight species. They are interesting, as I cannot find that any ornithologist has yet explored this island, the inhabitants of which bear an ill repute. I am indebted for my specimens to Mr. Forrest, of Bishop Selwyn's Melanesian Mission.

One species is certainly undescribed—a very remarkable *Zosterops* of the same aberrant group as *Z. rendovæ*, but larger and with a powerful bill, which I do not think is equalled by any other species of the group. I venture, therefore, to characterize it as

1. *ZOSTEROPS SANCTÆ-CRUCIS*, sp. nov.

Capite et dorso olivaceis, pileo subtiliter striato: loris fuscis: annulo arcuato plumarum albarum oculos cingente: remigibus et rectricibus fusco-nigris, pogoniis externis olivaceo-marginatis: thorace et pectore pallide olivaceis: abdomine et subcaudalibus pallide flavidis: mandibulâ superiore brunneâ, inferiore ad basin albidâ: tarsis et pedibus fuscis.

Long. tot. 5·3 poll., alæ 2·6, caudæ 1·9, tarsi 0·9.

This species has no connection with Hartlaub's genus *Tephras*, inasmuch as its tail is perfectly square.

2. *MYZOMELA PULCHERRIMA*, Rams.

I can detect no difference between this and typical specimens from Ugi.

3. *LALAGE PACIFICA* (Gm.).

4. *APLONIS RUFIPENNIS*, Layard.

5. *COLLOCALIA ESCULENTA* (L.).

6. *PTILOPUS GREYI*, Gr.

7. *ANAS SUPERCILIOSA*, Gm.

8. *TOTANUS INCANUS*, Vieill.

III.—*On the Taxonomy of the Swifts and Humming-birds : a Rejoinder.* By Dr. R. W. SHUFELDT, C.M.Z.S.

IT is with no small degree of interest, and with a considerable degree of profit, that I have read Mr. Lucas's recent article on the classification of the Swifts and Humming-birds*. And, coming as it does from the pen of a scientific avian osteologist as a criticism of an article of mine on the same subject†, it is especially valuable, and more than worthy of careful consideration. Some of his objections to my views I believe I have already answered in another place‡; while much that I put forth in support of my convictions in 'The Ibis' last January he has thus far failed to meet. Believing, as we must, that this matter, when settled, will be settled by the weight of biological facts and not by the weight of authority, it would seem nevertheless that my critic is entitled to a brief reply to his question as to "precisely who, among ornithologists, have accepted his [my] conclusions that the Swifts are practically Swallows and have no relations with the Humming-birds" (*op. cit.* p. 365).

In the first place, Dr. Shufeldt does not believe that the "Swifts are practically Swallows"; but, on the other hand, he does believe that those two groups are derived from a common ancestral stock§, and that the Swifts are not especially related to the Humming-birds. It seems to me that that statement is clear enough. Next as to my "persistently misquoting" Professor Huxley's views in the premises: not exactly misquoting him, as Mr. Lucas says, but using his words "to convey a false impression." Upon more occasions than one I have distinctly named the groups of birds that Huxley included in his "Cypselomorphæ," and claimed that it "was done upon only too few characters, and mainly based upon the osteological ones seen at the base of the skull"||. That can hardly be termed a "most unfair kind

* 'The Ibis,' 1893, pp. 365-371.

† *Ibid.* pp. 84-100.

‡ 'The American Naturalist,' 1893, pp. 367-371.

§ Journ. Linn. Soc., Zool. xx. p. 390.

|| Amer. Nat., April 1893, p. 370.

of misquotation," as Mr. Lucas has termed it (p. 365, footnote). What I say here now about Professor Huxley's statements will not be hereafter considered in the light of a misquotation, I am very sure. In his famous contribution to the "Classification of Birds" in the P. Z. S. of April 11, 1867, he has first seriously to deal with the Swallows, Swifts, Goatsuckers, and Humming-birds on pp. 452-454 inclusive. The first statement he makes is that "the Swallows completely agree with the other Passerine birds in the general form and arrangement of the bones which enter into the composition of their palates" (p. 452). That is practically true, and it is a very good point to offer as an initial argument. He immediately follows that statement by saying:—"And the Swifts essentially resemble the Swallows, though the form and proportions of the palatine bones are somewhat different" [and to prove it he refers to his figure of *C. apus*, fig. 34]. This statement is equally true, and the only remarkable part of it is that he makes the comparison between the Swifts and the Swallows, and *not* with the Swifts and the Humming-birds. Omitting now what he says about the Swifts and *Caprimulgus* and its allies in the next three paragraphs, we find him first referring to *Trochilus* on p. 454, but *not* comparing its palate with a Swift—simply stating that "*Trochilus* has the true Passerine vomer, with its broad and truncated anterior and deeply cleft posterior end. I have not yet been able to obtain a perfectly satisfactory view of the structure and arrangement of the palatine bones in the Humming-birds." As both Parker and I myself have pointed out for him, Professor Huxley was entirely wrong about the vomer in the *Trochili*, for every avian anatomist now knows quite well that the vomer of a Humming-bird is of an entirely different structure from the same bone in a Swift.

Following him along, the next paragraph that touches upon the subject under consideration is on p. 456; and there Professor Huxley simply states, what is very true, that "in their cranial characters the Swifts are far more closely allied with the Swallows than with any of the desmo-

gnathous birds, the Swift presenting but a very slight modification of the true Passerine type exhibited by the Swallow. No distinction can be based upon the proportions of the regions of the fore limb; since in all the Swallows which I have examined the manus and the antebrachium, respectively, greatly exceed the humerus in length, though the excess is not so great as in *Cypselus*." This is actually all that occurs on these points in the *descriptive part* of his memoir. There is not a *single* comparison between a Swift and a Humming-bird, but only a gross error in the matter of the morphology of the vomer in *Trochilus*; added to this, we have several favourable comparisons between Swifts and Swallows.

With this kind of information, Professor Huxley carries us on to the *taxonomical part* of his memoir. The group that interests us here is found upon pp. 468 and 469—the *Cypselomorphæ*, which he claims "contains three very distinct families—the *Trochilidæ*, the *Cypselidæ*, and the *Caprimulgidæ*." The meagre list of characters upon which these families are arranged do not exist as Huxley says they do, or thinks they do. In the first place, *Trochilus* has a slender *spine-like* vomer, and the bone is not "truncated at the anterior end"; and, moreover, the statement that "the lower larynx has not more than one pair of intrinsic muscles" is simply not true, but it is true that the morphology of the trachea and its associated parts, myology and all, are essentially very different indeed in Swifts and Humming-birds. Finally, he closes what he has to say about his "*Cypselomorphæ*" and their affinities without a single direct comparison between a Swift and a Humming-bird except that "the *Cypselidæ* are very closely related to the Swallows among the *Coracomorphæ*," in which statement I most emphatically agree with him.

The fact is Huxley, at the time he wrote his "Classification of Birds," had by no means Humming-bird material enough to judge by. He had more Swift-material, and this he compared with *four species* of Swallows and could not avoid being impressed by the evident resemblances, and so stated them. His material, however, would not justify him in taking

any other step at the time he wrote than to convert Nitzsch's "Macrochires" into his "Cypselomorphæ," plus the *Caprimulgi*—a group which Nitzsch had the wisdom to keep apart.

Sundevall (1872-74), in his 'Tentamen,' placed the Swifts in one "Cohors" and the Humming-birds in another, and this was seven years after Huxley wrote his Classification. Sundevall devoted his entire life to the science of ornithology; he wrote a complete classification of birds, which, though faulty in many particulars, was correct in others, and was based almost entirely upon the study of their *external* characters.

But we have a better man than Sundevall in Macgillivray, and there is good evidence that the latter made a very careful study of nearly the entire structure of at least one species of Humming-bird. He is probably responsible, too, for the classification set forth in Audubon's great work; and in that work the Swifts are placed near the Swallows and far asunder from the Humming-birds. Macgillivray was aware of the extraordinarily large heart in the *Trochili*, of the peculiarities in the tongue, in the gizzard, the feet ("proportionally as large as those of a Cormorant"), in the pterylosis, in the air-passages, and in many other parts.

Mr. William Brewster, of Cambridge, Mass., a very distinguished American ornithologist, believes "that a Swift is merely a peculiar kind of Swallow"*; Mr. Harting believes that "the relationship between the *Cypseli* and *Trochili* has been overstated, not to say exaggerated" (Ibis, 1893, p. 93); and I could mention a good many others holding the same opinion. But what such men *believe* is supported by those who have made life-long studies of the structure of birds—not only of their osteology, as Mr. Lucas has done, but of their myology, their embryology, their neurology, their pneumatology, their angiology, and everything else that relates to their biology. All these systems afford characters quite as good as those offered by the skeleton. Take such a man, for instance, as was Professor William Kitchen Parker (and the world has produced but very, very few men

* Amer. Nat., April 1893 p. 370.

like him): he clearly saw the relations existing among the birds we now have under consideration. A number of years ago Professor Parker read for me before the Linnean Society of London a memoir upon this subject (Linn. Soc. Journ. vol. xx.), and of it he was so good as to write me (Sept. 30, 1887) that he considered it "like Garrod's best work and mine [his] combined"; but in another letter he gave me an opinion of his which is far more important than that. This letter was of an earlier date*, and in it he wrote that "this fact remains—the only birds outside the huge group of the 5000 Coracomorphæ that have the *ægithognathous* palate are the Swifts: either they arose from the same stock as the Swallows, or they came from a type very nearly related,—and Newton says that the *Swallows* are a very isolated group of Passeres; yet they have many characters typical, inside and out." An opinion of that kind is not a "snap judgement," but is written by one who daily studied the relations of birds for *forty years*. Some day and in another place, perhaps, I propose to publish a series of Professor Parker's letters to myself that contain much of interest to ornithologists, and views that up to the time of his lamented death he had not committed to print.

So much for a few of the authorities that Mr. Lucas so earnestly seeks; and Dr. Fürbringer, in his work, can supply him with a number of others.

My critic believes that it is through *Chætura* that the Swifts have relations with the Humming-birds (p. 365), and yet holds me up for having uttered "sweeping generalizations based on the examination and comparison of a limited number of local forms" (p. 371). Now it was to the anatomy of *Chætura* that I paid especial attention in my Linnean memoir, and compared it in detail with the anatomy of several genera and species of Humming-birds; and I failed to find then, and do not see at this moment any great amount of structural resemblance between them.

* Dated from Crowland, Trinity Road, Upper Tooting, S.W., Feb. 9, 1887.

It is to be regretted that Mr. Lucas did not mention in his paper what Humming-bird among all the *Trochili* is so much like *Chætura*. When I have been informed upon that point I shall be in a position to see more clearly what my friend means from what he says. But, mark you, I am no longer inclined in this matter to listen to those who have only a few *single sets of characters* to bring forward in support of what they state. I have carefully examined the *entire anatomy* of several specimens of *Chætura pelagica*, as I have the structure of many Humming-birds; but to *use* the knowledge gained therefrom I must at least have the evidence that my opponent is equipped in a similar manner.

On p. 369 of his paper Mr. Lucas presents us with a series of figures (1-5) which are intended to show the "various steps in the transition from the humerus of the Goatsucker to that of the Humming-bird." The bones are right humeri seen upon their anconal aspects, and several of them have been more or less enlarged. They are from specimens of *Campylopterus hemileucurus*, *Cypselus apus*, *Macropteryx klecho*, *Chordeiles virginianus*, and *Progne subis*. The series, then, is from a Passerine to a Trochilidine bird more than it is from Goatsucker to Humming-bird. No descriptions nor actual comparisons whatever occur in the text of the article in regard to these bones—important matters about which we are left entirely in the dark. Glancing at the pictures of them as they stand, it must be evident to any one, osteologist or otherwise, that there are two instances in which violence has been done, and these are the insertion of the humeri of the Goatsucker and the Humming-bird in the series. But we are not after what things thus superficially "look like," but that better and far safer species of anatomy which takes into consideration the characters as they actually exist. Mr. Lucas, in conversation with me the other day, acknowledged that he thus far failed to see how it was that the humerus of a Humming-bird had come to be "completely twisted round." Permit me to suggest it may be just possible that it is

Mr. Lucas's taxonomy of the birds we have under consideration which is so completely twisted round, and not the Trochilidine humerus.

My apologies are due to those "few benighted ornithologists" alluded to in the first paragraph of my critic's paper. What I said about their views was prompted by an observation made by Professor Parker in his letter of February 9th (1887) referred to above. He remarked:—"Don't let us be in a hurry; it is a *give-and-take* business. In ornithotomy we come across things *deeper* than those seen and argued about by the mere ornithologist. Those of the latter group, *here*, are dead against the doctrine of Swifts being a kind of Swallow." But Professor Parker had a very good excuse for writing as he did; for in a letter written to me in September 1887 he says of himself that "the whole Class is always flitting and flying through my mind, so that you can't wonder at my being somewhat bird-witted, as the expression goes." And in the month preceding of the same year, or in August, he said:—"The Cypselidæ, although ægithognathous, I should set close to the Hirundinidæ, but *outside* the line, as the most Passerine of the utterly polymorphic Cuculines ('Coccygomorphæ'). The latter group is one-tenth the size of the Coracomorphæ, and ten times as variable. . . . I should make it begin with the Swifts and *end* with the Parrots."

Before closing this brief paper I desire to express my thanks to Mr. Lucas for the loan of a skeleton of *Collocalia*, for the skulls of *Macropteryx* and *Cypselus apus*, with some limb-bones of the last two, and for what he has written about them in 'The Ibis.' As he truly remarks, *Macropteryx* is a specially interesting form, and I would add that it is of the highest importance to avian classification that the anatomy of all the Swifts and Swift-like birds now retained by ornithologists in that group should be thoroughly examined. The fact that *Macropteryx mystacea* apparently lacks basipterygoid processes, but has the mandible in one piece like the (*Cypseli*, must be remembered in connection with Huxley's observation—"The modification commenced in the Swift is

greatly exaggerated in *Ægotheles* and *Caprimulgus*; while we have almost a transition to the desmognathous structure in *Nyctibius*" (P. Z. S. 1867, p. 456). In connection with this latter fact remember, too, that the *Striges* are desmognathous, and that such a form as *Steatornis* exists. Then the pterylosis of many of the *Caprimulgi* has an *owlish pattern* that means something. Remember, too, *Megascops* has two "colour-phases," so have some *Caprimulgi*; *Megascops* and some other Owls have "plumicorns," and so have some *Caprimulgi*; most Owls are nocturnal, so are many Goat-suckers; and so we might go on, carrying the comparison far into the fields of anatomy. Do not allow too much zeal in one quarter to mask the facts in another.

AVES are a wonderfully closely-clustered group of Vertebrates, and it is extremely difficult to get at their affinities and inter-relationships. They will classify themselves to a large extent when the *anatomy* of four-fifths of the forms, including that of all the "outliers," is known to us; and only when that is done and accomplished shall we be in a position to define their affinities correctly and to make a classification of them—not before. More material, and of the right kind, is what we need now, and its careful and thorough working-up. In my opinion no classification of birds has been published since the days of Linnæus that must not be considered, in many of its parts, wholly provisional. Until further progress has been made it is, I think, very questionable whether any material service to ornithology is rendered by persistently propounding the new systems of avian taxonomy with which we are now often afflicted.

IV.—On the Birds of the Calcutta District.

By PHILIP W. MUNN, M.B.O.U.

THE following notes were made during a residence of several years at Titaghur, on the Hooghly, about twelve miles north of Calcutta, and one mile south of Barrackpore. Though they chiefly relate to the birds noticed in the neighbourhood

of Titaghur, they are equally applicable to the immediate vicinity of Calcutta.

Except near the river, which is shut in on both banks by a strip of jungle, the country round is fairly open and quite flat, with alternate stretches of open cultivated land and of marshes (called "jheels") surrounded by belts of trees, in which the native villages are built, among their orchards and gardens. These orchards and gardens are always raised above the level of the surrounding country, and a steep bank of earth is thrown up round, with a ditch at the bottom. Mango, jack-fruit, lichi, and plantain-trees are grown here, and cocoa-nut and betel-nut palms. The palms are planted around the tank, which is formed in every orchard for the purpose of irrigating it and watering the trees. A good deal of sugar-cane is also grown on the raised ground, and crops of tall grass, for thatching purposes.

The lower land, which in the rainy season is flooded with water, is planted principally with rice and jute. The divisions between the different fields are low, narrow banks of earth, called "bunds," covered with grass, and these "bunds" are the pathways through the fields during the time the country is under water. Scattered about in the open country are clumps of thorny bushes and of date-palms, and solitary babool-trees.

Some of the jheels, though very large, dry up entirely during the hot season, but during the rains they have the appearance of a vast expanse of waving reeds, with here and there patches of open water. The shallow edges are planted with paddy and jute, and the whole is surrounded by the usual belt of tree-jungle, the tall palms being the most conspicuous trees, as they overtop the rest. The commonest trees are mango, neem, jack-fruit, tamarind, plantain, bamboo, banyan, peepul, and cotton-trees; but, with the exception of a number of casuarina-trees at Titaghur, and some of the trees in Barrackpore Park and on the Grand Trunk Road, they are mostly small, though there is often a large banyan or peepul in the centre of the villages.

Compared with other parts of the Indian plains, Bengal is

wonderfully fertile, and the country is never so bare nor the trees so dust-laden; for during the hot season the stubble of the former crop, and the weeds which contrive to flourish in spite of the drought, as well as the quantity of grass in many places, prevent the fields from assuming that parched and arid appearance which is noticeable elsewhere. The trees also are now out in the fullest leaf, most of them being ever-greens, and having both old and new leaves on in the dry season, the old ones to be dropped as soon as the young have attained their full growth. Thus the country has quite a fresh, fertile appearance, in spite of the heat and drought.

The scientific names in these notes are mostly taken from Oates's "Birds" in Blanford's 'Fauna of British India,' and from his edition of Hume's 'Nests and Eggs of Indian Birds.'

1. *CORVUS MACRORHYNCHUS*. (Jungle Crow.)

The Jungle Crow is a common resident and generally distributed; although usually found in wooded parts away from habitations, it not unfrequently associates with the House Crow in the villages. It is an early breeder, usually having young by the middle of April, and in this district cocoanut-palms are preferred for nesting in.

2. *CORVUS SPLENDENS*. (House Crow.)

Very plentiful and resident. They begin building as early as February, though the eggs are not laid much before April; but not one half of the Crows about Titaghur breed at all, very few nests being found in proportion to the number of birds. Every evening they retire to roost in certain clumps of trees in immense numbers, in company with *Acridotheres tristis* and *Sturnopastor contra*. During a flight of locusts in November 1890, they fed greedily on the insects, catching them in the air and clumsily imitating the Kites in attempting to devour them without alighting.

3. *DENDROCITTA RUFA*. (Indian Tree-Pie.)

Very common, generally distributed, and resident. The Tree-Pie is a great robber of other birds' nests, devouring both eggs and young. During the breeding-season they are

very shy and wary, and the nest is difficult to find. I once saw one of these birds fly out of a clump of bushes closely pursued by a King Crow, which seized the tip of the longest tail-feather of the Tree-Pie in its beak, and hung on to it for some distance, being "towed" through all the undulations in the flight of the Pie.

This bird feeds on fruit, insects, &c., and is never seen on the ground, being entirely a tree-haunting species.

4. *CRATEROPUS CANORUS*. (Jungle Babbler.)

This is the only Babbler found in the district around Titaghur, and is a very common resident, generally distributed, inhabiting compounds, orchards, and jungle of every sort. The greater number lay in April, though I have found full-grown young as early as the middle of March. The hen bird sits very close, and will often allow the nest to be touched before flying off. On May 18, 1890, I found a nest containing four eggs, built on the uppermost ring of fruit on a bunch of plantains. The birds feed principally on white ants, but also on other insects, and may often be seen in small parties turning over the leaves in search of food.

5. *ÆGITHINA TIPHIA*. (Common Iora.)

The Iora is a common resident species and generally distributed, frequenting especially gardens and orchards. These birds probably have two broods in a year, one about April and the other in August or September. When their nests are meddled with the old birds are most vociferous, crying and fluttering about quite close, and often making a curious buzzing noise with their wings. In the breeding-season the males have very little black on the upper parts, being chiefly yellowish green on the head and back, and differing but very little from the winter plumage.

6. *MOLPASTES BENGALENSIS*. (Bengal Red-vented Bulbul.)

A very common bird, resident and generally distributed; though mostly seen in pairs, they sometimes assemble in large numbers when attracted by a quantity of food. They usually lay in April and May, and I have found a nest built in a heap of cut wood, which contained two large young ones

and one egg not yet hatched, on April 27th. The nest is usually rather small for the size of the bird.

7. *OTOCOMPSA EMERIA*. (Bengal Red-whiskered Bulbul.)

Not so common as the last-named (which it much resembles in its habits) : resident and generally distributed. A favourite situation for the nest is in the dead bushes which are often tied round the trunks of fruit-trees to prevent people climbing them ; and it is seldom built at any great height above the ground.

8. *DICRURUS ATER*. (Black Drongo.)

One of the commonest birds ; to be seen everywhere, the telegraph-wires at the side of the railway being a favourite perch. It is a resident species, and breeds during the end of April and in May, usually building in babool-trees. I have taken white unspotted eggs of this bird, but they are not common. After the young are fledged and able to leave the nest, they remain for some days perched in a row on a bough near and are fed by the old ones, even after they can fly fairly well.

On bright moonlight nights these birds are often to be heard singing and calling.

9. *DICRURUS LONGICAUDATUS*. (Indian Ashy Drongo.)

Not very common. I have noticed this species only during the cold season, and am sure it does not breed in the district.

10. *CHAPTIA ÆNEA*. (Bronzed Drongo.)

Common, resident, and generally distributed throughout the wooded parts of the country ; in the open parts it is seldom seen. An early breeder, often having full-grown young by the middle of April, which sit outside the nest and are fed by the old birds, like *Dicrurus ater*. Seldom more than two eggs are found in the nest, which is very difficult to find.

11. *CHIBIA HOTTENTOTTA*. (Hair-crested Drongo.)

Very rare. I saw one which had been shot by a European at Khardah.

12. *ACROCEPHALUS STENTOREUS*. (Great Reed Warbler.)

A not very common winter visitor, inhabiting the edges of jheels, paddy-fields, grass-jungle, and water-courses. One was found caught in a bamboo fish-trap, left high and dry in a dried-up paddy-field near Barrackpore, in November 1888.

13. *ACROCEPHALUS DUMETORUM*. (Reed Warbler.)

A winter visitor, but not common; sometimes found in dry localities at a distance from water.

14. *ORTHOTOMUS SUTORIUS*. (Tailor-bird.)

Common, generally distributed, and resident. Commonly builds in mango-trees in April and May. The Tailor-bird does not always procure its food among the leaves of the higher trees, but may often be seen hopping silently about low down among thick bushes and brambles.

15. *CISTICOLA CURSITANS*. (Rufous Fantail Warbler.)

A common resident, found in grass-jungle, paddy-fields, and jheels. The only nest that I found with anything in it contained four tiny young birds on June 28th.

15 *a*. *ARUNDINAX AËDON*. (Thick-billed Warbler.)

The Thick-billed Warbler is a rather uncommon winter visitor, inhabiting marshy jungle or woods and bushes on the edges of the jheels or in the paddy-fields.

16. *LANIUS NIGRICEPS*. (Black-headed Shrike.)

A rare winter visitor.

17. *LANIUS CRISTATUS*. (Brown Shrike.)

A very common bird during the cold season, and a few remain in the district all the year round. The telegraph-wires at the side of the railway are favourite perches for these birds.

18. *TEPHRODORNIS PONDICERIANUS*. (Common Wood-Shrike.)

Very common, generally distributed, and resident, breeding in April and May. The young birds follow the old ones about, and are fed by them for some time after they have left the nest and are fully grown. They feed on insects, usually

sought for among the foliage of trees, though I once shot one which I had watched for some time catching insects on the wing over a tank, like a Bee-eater, for it swooped after its prey over the water, generally returning to the same perch in a clump of bamboos.

19. *PERICROCOTUS PEREGRINUS*. (Small Minivet.)

Not uncommon, generally distributed, and resident. Usually seen in small parties, even in the breeding-season, searching for their food, of insects, among the foliage of the trees, or more rarely catching them on the wing.

20. *CAMPOPHAGA SYKESI*. (Black-headed Cuckoo-Shrike.)

I have noticed this species only during the rainy season (from June to September), and at no other time of the year; even then it is not by any means common.

21. *ARTAMUS FUSCUS*. (Ashy Swallow-Shrike.)

Arrives in considerable numbers towards the end of the rainy season, about August, and leaves again before the hot weather commences in March. They may often be seen sitting huddled together on the bare top of some tree, as many as twenty or thirty together; and towards evening many may be seen flying southwards over Titaghur, probably seeking some general and favourite roosting-place.

22. *ORIOULUS MELANOCEPHALUS*. (Black-headed Oriole.)

Very plentiful, resident, and generally distributed. They usually have eggs at the beginning of May and June, though I once shot a young one, which had not long left the nest, on April 13th.

A pair of these birds frequently inhabits the same compound, plantation, or orchard, and breeds there, often even in the same tree, year after year, if undisturbed. Their nests are, perhaps, more often pillaged by *Dendrocitta rufa* than by any other bird, and it is a common sight to see the robber pursued by an indignant pair of these brightly-plumaged birds.

23. *STURNIA MALABARICA*. (Grey-headed Mynah.)

Common, generally distributed, and resident. Breeds in

May and June, either in natural holes in trees or in those made by small Woodpeckers and Barbets; at other times of the year they assemble in small flocks.

24. *ACRIDOTHERES TRISTIS*. (Common Mynah.)

The Common Mynah is extremely common all over the district; although usually found more abundantly near houses, it is not uncommon at a distance from habitations. There are two broods in the year, the first eggs being laid in April and May, and the second brood being usually hatched in July. Cast skins of snakes are very often used in the construction of the nest. After a flight of locusts these birds, as well as the next, feed greedily on the insects. In the winter they roost together in immense numbers.

25. *STURNOPASTOR CONTRA*. (Pied Starling.)

A very common resident species and universally distributed. As early as the middle of February I have seen them busily inspecting their future nesting-places; but they usually begin building their huge untidy nests—often several in one tree—in April, and they generally have young nearly ready to leave the nest by the end of May. I have sometimes taken their eggs in June. The Shikra (*Astur badius*) often takes the young birds out of their nests to feed on them, and though, during the proceedings, the old birds make a great noise, they are afraid to attack and drive away the Hawk.

26. *SIPHIA ALBICILLA*. (Red-breasted Flycatcher.)

A common winter visitor and generally distributed, but always found solitary.

27. *STOPAROLA MELANOPS*. (Verditer Flycatcher.)

Not uncommon as a cold-weather visitor, and universally distributed, but always found singly.

A white-breasted Blue Flycatcher which I have often seen in the cold season, but of which I have never procured a specimen, must be either *Cyornis superciliaris* or *C. astigma*.

28. *TERPSIPHONE PARADISI*. (Paradise Flycatcher.)

Plentiful in the wooded parts of the country, and in gardens and orchards, arriving in April and remaining until the middle

or end of October. They do not usually lay before June—at the beginning of the rains—though on June 8th, 1890, I found a nest containing young, but on the same day I found two other nests still unfinished. The nest takes about a week to build, and the female apparently does all the work, for the cock bird at this time is extremely shy, and generally remains quietly perched in a tree near the nest, and watches the operation and keeps the hen bird to her work. The nests are commonly built in mango or jack-fruit trees. In June 1890 I shot a cock bird in chestnut plumage, which had half of one of the long tail-feathers white.

I once watched a party of these birds bathing in a tank; they were perched on a bough overhanging the water, and every now and then plunged right into the water, as a Kingfisher does, returning to the same bough after every plunge to shake and preen their feathers. The cock bird is very silent; but the presence of these birds may be detected by the sound of the female, which continually utters a harsh call-note.

29. *HYPOTHYMIS AZUREA*. (Black-naped Flycatcher.)

This Black-naped Flycatcher is an uncommon winter visitor, generally distributed in the wooded parts, but always found singly.

30. *RHIPIDURA ALBICOLLIS*. (White-throated Fantail.)

Resident, generally distributed in wooded parts, and common. In this district it is entirely a bird of the woods, and never found near houses. It thus differs from *R. albifrontata* which I have seen in the N.W. Provinces, usually in the native villages, catching insects around the cattle-sheds and yards round the huts.

31. *PRATINCOLA MAURA*. (Indian Bush Chat.)

A winter visitor and fairly common, in open country only.

32. *RUTICILLA RUFIVENTRIS*. (Red-bellied Redstart.)

An uncommon winter visitor. I have seen one as late as March 23rd.

33. *CYANECULA SUECICA*. (Bluethroat.)

A winter visitor and fairly plentiful, especially on the edges of jheels and in damp paddy-fields, where it is usually seen hopping under shelter of the grass growing on the bunds between the fields. It much resembles a Redbreast in its habits. On Feb. 15, 1891, I had a near and distinct view of one of these birds with a *white* spot on the breast (*Cyanecula wolfi*?).

34. *CALLIOPE CAMTSCHATKENSIS*. (Ruby-throat.)

A winter visitor, usually found in rank grass-jungle, sugarcane, or reeds, but not often seen. The male makes a plaintive whistling noise.

35. *COPSYCHUS SAULARIS*. (Magpie Robin.)

The Magpie Robin is a very common bird in this district, and is universally distributed and resident. It breeds in May and June usually, in holes in trees, stumps, walls and buildings, often utilizing old holes made by Woodpeckers and Barbets to build in. It feeds on insects, and has a pleasing song, not unlike a Redbreast's, but more powerful.

36. *GEOCICHLA CITRINA*. (Orange-headed Ground Thrush.)

An uncommon winter visitor, very shy, and therefore seldom seen. I shot one on Nov. 30, 1890, near Khardah, as it flew up from the ground, where it had been hopping about and feeding, just like the common English Thrush.

37. *PLOCEUS BAYA*. (Baya.)

Common, generally distributed, and resident. During the winter they entirely desert the neighbourhood of their nesting-trees and assemble in large flocks in the open grass-jungle. They breed from May to September, usually constructing their nests in "tar" trees (*Borassus flabelliformis*), though occasionally babool and date-palms are selected. Sometimes an old nest is added to, with the result that there are two bulbs in the structure, only the lower one, however, being used to lay in.

38. *PLOCEUS BENGALENSIS*. (Black-throated Weaver-bird.)

Resident; occurs sparingly in some of the larger jheels, where it breeds in small colonies among the tall reeds growing

in deep water. The nests are seldom close together, but are scattered about singly in the reed-bed ; they are suspended from the tops of several reeds drawn together and built into the upper part of the nest. As is the case with *P. baya* and *P. manyar*, the division between the nesting-pocket and the entrance is built as soon as a safe hold has been secured on the vegetation in which the nest is to be placed, and serves as a perch from which one of the birds may work. The nests are more strongly constructed and built of finer grasses than those of *P. manyar*, and are often without any tubular entrance at all. I have also seen them ornamented with the blossoms of the babool and other yellow flowers. The same clumps of reeds are usually resorted to every season. On visiting some unfinished nests a second time, I have found them totally destroyed : the birds are rather shy, and easily forsake their nests. The eggs, occasionally as many as four or five in a clutch, are laid in August and September.

39. *PLOCEUS MANYAR*. (Striated Weaver-bird.)

A common species in certain large reed-covered jheels, where it breeds in great colonies among the reeds, not necessarily in those standing in water. The nests, often built close together, are suspended in much the same way as those of *P. bengalensis*, but not so strongly constructed, and are composed of rather coarser grasses than that bird's. These nests are also usually ornamented with babool blossoms and some other yellow flowers. Occasionally nests are found among jute and in tall grass. In some cases the tubular entrance is 6 or 8 inches long, but one nest I found without any entrance at all : it contained two eggs sewed up inside it. The birds frequent the same localities annually for nesting, but do not often arrive at these places before August, the eggs being laid at the end of that month and in September. I once shot a snake in one of these nests built three feet above the water, which was here four feet or more deep ; it was coiled round the outside of the nest, with its head and neck thrust up the tubular entrance into the nest. Usually two or three eggs are laid, more rarely four in a clutch. When not breeding the birds assemble in large flocks in tall

grass-jungle and feed on grass-seeds and grain. They remain in the district all the year round.

40. *MUNIA ATRICAPILLA*. (Chestnut-bellied Munia.)

Fairly plentiful, but much more abundant during the rainy season. Resident. Breeds in July and August; in one day I have found nests containing fresh eggs, others containing half-grown young, and another nest from which the young had flown. The nests are built either in long grass—occasionally quite low down—or in trees and bushes, and both birds are often in the nest together.

41. *UROLONCHA MALABARICA*. (White-throated Munia.)

Not common, found only in pairs during the breeding-season, but much more plentiful and gregarious during the rest of the year. On August 23, 1891, I found a pair breeding in an empty Baya's nest, amidst a breeding colony of these birds in a solitary "tar" tree.

42. *UROLONCHA PUNCTULATA*. (Spotted Munia.)

Quite the commonest species of *Munia* found in the district, universally distributed and resident. It is a much more familiar bird than the other *Munias*, and frequently builds in compounds and close to houses, as well as in most conspicuous positions near frequented thoroughfares. It breeds in August, September, and October, building a large untidy nest in some solitary bush or shrub, particularly in babool trees. As many as seven eggs are often laid; and if the nest be robbed the birds will not forsake it, but will soon lay another clutch of eggs in the same nest.

43. *SPORÆGINTHUS AMANDAVA*. (Red Waxbill.)

The Red Waxbill, or Amadavat, is a rather locally distributed species, remaining all the year round, but it is nowhere abundant. It usually inhabits grass-jungle and open country, and breeds in September and October, building its nest either on the ground among grass or low down in a bush. On October 18, 1891, I found a nest built on the ground among rough grass in a field: it was domed, with an entrance at the side, slightly made of grass and lined with downy blossoms

of the same. It then contained five fresh white eggs. The male having once assumed the full red plumage does not undergo any other change.

44. *PASSER DOMESTICUS*. (House Sparrow.)

Common, generally distributed, and resident, with habits exactly similar to those of the House Sparrow in Europe.

45. *EMBERIZA SCHÆNICLUS*. (Reed Bunting.)

On February 2, 1889, I saw a pair of these birds in a jheel near Barrackpore, hopping about and feeding alongside a stream flowing through it.

46. *COTILE SINENSIS*. (Indian Sand-Martin.)

The Indian Sand-Martin is uncommon and local, and probably resident. A small colony had their nesting-holes in the face of a bank overhanging the Matabunga river at Kissengunge, on the E. B. S. Railway, but they were evicted, through the bank being washed away in the floods in August 1890. Another colony was noticed near Mogra on the E. I. Railway.

This species breeds at the end of the year.

47. *HIRUNDO RUSTICA*. (Common Swallow.)

Solitary individuals may be seen almost at any time all the year round; but they are certainly more abundant in the cold season.

48. *MOTACILLA ALBA*. (White Wagtail.)

49. *MOTACILLA PERSONATA*. (Masked Wagtail.)

These Wagtails are both winter visitors, arriving in September, and are plentiful.

50. *MOTACILLA MELANOPE*. (Grey Wagtail.)

51. *MOTACILLA BOREALIS*. (Grey-headed Wagtail.)

These are both common winter visitors, arriving about the same time as the Pied Wagtails.

52. *ANTHUS MACULATUS*. (Indian Tree-Pipit.)

A winter visitor, but not plentiful; usually seen in small flocks on the edges of woods and in gardens. It arrives in November.

53. *ANTHUS RUFULUS*. (Indian Pipit.)

Very common, resident, and universally distributed in the open country. Breeds throughout March, April, May, and June. The nest is usually an open structure built beneath a clod or tuft or a bush; but I have found one which was completely domed over, and with a hole at the side for entrance; and another was completely hidden in some short, thick grass, and approached by a run through the herbage.

On one occasion I caught a male bird sitting on the eggs. The nests are made of grass and dry stalks, lined with fine grass and horse- or cow-hair.

54. *MIRAFRA ASSAMICA*. (Bengal Bush-Lark.)

Common, resident, but met with only singly or in pairs in open country. I have found a nest with half-grown young as early as March 30, and another containing fresh eggs on May 3. The nest is domed over, with a hole at the side, and loosely made of dry grass.

55. *PYRRHULAUDA GRISEA*. (Ashy-crowned Finch-Lark.)

Uncommon and sparsely distributed in the open country; not noticed during the rains, but only in the winter and hot season.

56. *ARACHNECHTHRA ZEYLONICA*. (Amethyst-rumped Sun-bird.)

Very common, resident, and universally distributed. Two broods are probably reared in the year, as I have usually found nests with eggs in April and August. The nest takes from a fortnight to three weeks to build, the female doing most of the work. The babool is a very favourite tree for building in, and the nest resembles a lump of rubbish or cobwebs such as is so often seen caught on the ends of the boughs of these trees. On April 20, 1890, I found a nest from which the young ones flew, and on the same day another nest still unfinished. The latest date on which I procured fresh eggs was on September 1. These birds may sometimes be seen exhibited for sale in Calcutta, tied by the legs, with a piece of cotton, to the finger of a native.

57. *DICAËUM ERYTHORHYNCHUM*. (Tickell's Flower-pecker.)

Rare. On April 20, 1890, I found a nest of this bird, from which I shot the female, built in an almond-tree on the Grand Trunk Road near Khardah; this nest was not in any way concealed by the leaves of the tree, and was suspended from near the end of a twig; it contained two fresh white eggs.

The bird makes a loud chirping when disturbed, and is a most inquisitive and excitable little creature.

58. *MICROPTERNUS PLEOCEPS*. (Bengal Rufous Woodpecker.)

Uncommon, and found only in the thickly wooded parts of the country.

59. *BRACHYPTERNUS AURANTIUS*. (Golden-backed Woodpecker.)

The commonest Woodpecker in the district and very plentiful, universally distributed. It is very often seen on the ground, probably feeding on ants. They generally breed in holes in palm-trees.

60. *CYANOPS ASIATICA*. (Blue-cheeked Barbet.)

Very common, universally distributed, and resident. They breed during the hot season, excavating their own nesting-holes in dead trees. When making the hole the bird clings to the tree and rests on its tail, like a Woodpecker, and pecks vigorously at the wood, every now and then breaking pieces out from the sides of the hole, until it is obliged to stop, gasping from the exertion.

61. *XANTHOLÆMA HEMACEPHALA*. (Crimson-breasted Barbet.)

Very common, resident, and generally distributed. Breeds about the same time as *Cyanops asiatica*, the two species sometimes nesting together in the same tree.

62. *UPUPA EPOPS*. (European Hoopoe.)

A cold-weather visitor, but not very plentiful, arriving in October and usually leaving again before the hot weather begins in March; but I saw one as late as May 15 in 1889.

63. *TURTUR SURATENSIS*. (Spotted Dove.)

Extremely common, generally distributed, and resident. They probably breed all the year round, for I have taken eggs in January, February, March, April, June, August, October, and November, but by far the greater number in April; they will often lay again in the same nest from which the first clutch of eggs has been taken; and sometimes the old bird, on being disturbed from the nest, will sham lameness in order to draw the intruder away from it.

64. *TURTUR RISORIUS*. (Indian Ring-Dove.)

Very rare; indeed I only saw one pair in the district, and of this pair I shot one bird.

65. *CHALCOPHAPS INDICA*. (Bronze-winged Dove.)

Common and generally distributed in wooded country, orchards, and gardens; but shy and wary, and much more often heard than seen.

66. *CACOMANTIS PASSERINUS*. (Indian Plaintive Cuckoo.)

Rare. A male shot on March 2, 1890, had attracted my attention by its single plaintive whistling note. The other occasions on which I have seen this species were all during the rainy season.

67. *COCCYSTES JACOBINUS*. (Pied Crested Cuckoo.)

Common and generally distributed, but only during the rainy season—the earliest arrival I have noted was on May 18, 1890—and leaving again after the rains, at the end of September. They commonly deposit their eggs in the nests of *Crateropus canorus*, but it must be with the second laying of this Babbler, as the first brood is hatched during the hot season.

68. *EUDYNAMIS HONORATA*. (Indian Koël.)

Exceedingly common, resident, and generally distributed. Lays its eggs usually in the nests of *Corvus splendens*, but once I found three eggs of this bird in a nest of *C. macro-rhynchus*, without any eggs of the rightful owner.

The cry of this bird is incessant during the hot season, frequently throughout the night as well as the day. Their

food consists principally of small fruits and berries, and the birds collect in some numbers in a tree covered with their favourite fruit.

69. *CENTROCOCCYX RUFIPENNIS*. (The Crow-Pheasant.)

Common, universally distributed, and resident. Breeds during June, July, and August, and builds a large, loosely-constructed, globular nest, with a hole at the side, among dense jungle. If in grass-jungle, the nest is composed of dry grass or reeds, but if among bushes or in a tree, usually of sticks lined with grass and leaves. The eggs are oval and white, with a rough chalky surface.

Before nesting commences these birds frequently call to each other, making a loud "hōō"-ing note from the top of some tree, but when breeding they seldom venture far from the vicinity of their nests.

In this district their nests are usually found among the tall rank grass growing on the edges of tanks in quiet parts of the woods, or among the thick bushes and brambles overhanging water.

70. *CENTROCOCCYX BENGALENSIS*. (Lesser Crow-Pheasant.)

Rare; exceedingly shy and wary, and only found in that part of the district where there are large tracts of thick grass-jungle, especially round some of the jheels towards Baraset.

71. *ALCEDO BENGALENSIS*. (Indian Kingfisher.)

Common, generally distributed, and resident. Breeds when the rains have well set in, usually in July and August, in holes in banks, especially in those banks which surround orchards, gardens, &c., and not necessarily above water. The eggs are smaller than the English Kingfisher's, white, and even more highly glossed than that bird's.

72. *CERYLE RUDIS*. (Pied Kingfisher.)

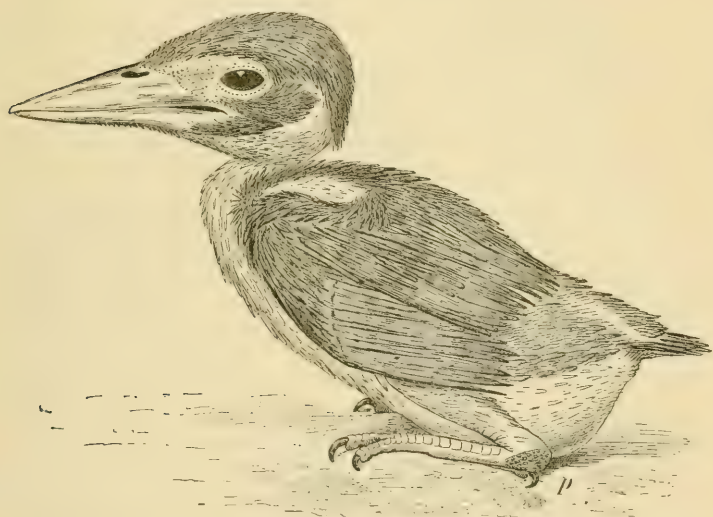
Fairly plentiful, but local; more generally distributed during the rainy season. This species prefers running water to stagnant tanks and jheels; and indeed, except during the rainy season, is found only on running streams. I have

never taken their eggs, but they breed in the banks of the upper waters of the stream which runs into the Hooghly near the Powder Factory at Ichapore.

73. PELARGOPSIS GURIAL. (Brown-headed Kingfisher.)

Not uncommon, resident, and universally distributed. During May and June they may be heard calling plaintively to each other, preparatory to breeding, though their usual cry is a loud hoarse laugh. On July 26th, 1891, I found a nest in a hole in a perpendicular bank overhanging the stream

Fig. 2.



Young Brown-headed Kingfisher (*Pelargopsis gural*), taken from nest.
p, pad on the heel.

which runs into the Hooghly above Bidiabatty; this bank had evidently been the nesting-place of these birds for some years, as there were many old holes in it. The nesting-hole was about 3 inches in diameter, comparatively small for the size of the bird, and about 18 inches deep, and just inside the entrance it widened out considerably, and ended in a fairly large chamber, the bottom and sides of which were trodden and worn quite smooth and hard by the movements of the birds. A few fish-bones and large scales were scattered

on the floor, and two young birds and one bad egg were in the nest; the larger of the two (fig. 2, p. 57) was half-grown and half as large again as the other; and they were both covered with large quills, none of which had yet burst. At the tip of the beak of the young bird was a small hooked knob, not found in the adult, and at the back of the heel a curious warty pad*.

The old birds were extremely solicitous for their young, and on their crying they flew round and perched close by. Later, on September 13, this nesting-hole was again occupied, and I caught the old bird in the hole, with two blind, unfledged young, about a week old, and two bad eggs.

74. *PELAGOPSIS AMAUROPTERA* (Pears.), Sharpe, Cat. B. xvii. p. 97.

One was shot at Khardah during the cold season of 1889-90, the only one I have ever seen in this district.

75. *HALCYON SMYRNENSIS*. (White-breasted Kingfisher.)

Common, generally distributed, and resident. This species is frequently found at a distance from water, as it does not subsist entirely on fishes, but appears to feed chiefly on lizards, beetles, and large insects. They inhabit any sort of country, either open or covered with jungle. The greater number in this district breed in May, making their nesting-holes usually in the embankments surrounding the orchards and gardens, also in bunds dividing the fields, or in pits; but they invariably select some cool shady part of the embankment to breed in. The holes are about $2\frac{1}{2}$ inches in diameter and 18 inches or two feet deep, with a chamber at the end, where the eggs are laid, on the bare earth, with perhaps a few fish-bones or wing-cases of insects.

During the breeding-season they are very noisy, continually calling to each other, but they are very shy and wary near their nests, and it is but seldom that the bird is seen to fly in or out of the nesting-hole.

Four or five eggs are laid.

* [See Günther, Ibis, 1890, p. 411, for description of a similar heel-pad on the foot of the Wryneck (*Iynx torquilla*).—ED.]

76. *CYPSELUS AFFINIS*. (Indian Swift.)

Very common, universally distributed, and resident. Their eggs may probably be found all the year round, but I think the greater number breed during the rains. Many build on the rafters which support the roof of Serampore Station, E. I. Railway.

77. *CYPSELUS BATASSIENSIS*. (Palm Swift.)

Common, but rarely found at any distance from the trees in which they breed. They are said only to breed in "tar" trees (*Borassus flabelliformis*), but I think it likely that they might be found breeding in cocoanut-palms, as I have seen the birds round plantations of these trees, and at a great distance from any "tar" trees. Multitudes of bats usually inhabit the "tar" trees, and I have even disturbed a pair of Nightjars and a couple of small Owls when trying to get at some Swifts' nests.

78. *CAPRIMULGUS ALBONOTATUS*. (Large Bengal Nightjar.)

Fairly plentiful and resident. This species is usually found among trees and bushes, but is not the commonest Nightjar found in the district, which is a smaller bird, about the size of *C. europæus*, and inhabits patches of sugar-cane, bushes, grass-jungle, and is even found in compounds.

79. *CAPRIMULGUS ASIATICUS*. (Common Indian Nightjar.)

Fairly plentiful and resident, usually found in country similar to that which *C. albonotatus* affects.

80. *CORACIAS INDICA*. (Indian Roller or Blue Jay.)

Plentiful, universally distributed, and resident. Breeds during the hot season, in March, April, and May, in holes in trees, especially in the broken-off tops of dead palm-trees. They are exceedingly wary at the nest, but as they do not venture very far from it when breeding, if a bird is to be seen in the vicinity of a dead palm-tree, the nest is pretty certain to be in it. The nest is made of a considerable quantity of fine sticks, roots, grass, and even bits of paper and rag.

81. *MEROPS VIRIDIS*. (Green Bee-eater.)

Very common, generally distributed, and resident. I

found a nest on May 4, 1890, which contained six young ones of all sizes, from the largest, which flew out of the hole and escaped, to the smallest, scarcely fledged. Just inside the mouth of the hole was a cavity, where they sat to be fed by the parent birds, as they could not all possibly sit in the passage leading to the nesting-chamber; this nesting-chamber was about three feet deep in a bank, and was strewn with the legs, wings, wing-cases, &c. of insects. On being disturbed all the young retired to this chamber. Until the young are hatched the nests are exceedingly difficult to find, as they are made in such inconspicuous holes, and the birds are so shy and wary.

The nesting-holes are usually in the banks surrounding orchards and cultivated enclosures, and also in the bunds between the paddy-fields. Though these birds are so conspicuous during the greater part of the year, during the hot season, when engaged in breeding, they retire to quiet places to rear their young, and unless these places are visited, one might think that they migrated from the district altogether during that season.

After the rains, and throughout the cold season, every evening I used to see large flocks of this Bee-eater flying overhead, probably to some favourite roosting-place.

82. *MEROPS PHILIPPINUS*. (Blue-tailed Bee-eater.)

A visitor—only during the rainy season—from June to August, and never very plentiful. They are found in small flocks and always in bad plumage. They have a fine flight, swishing from their perches after insects with a bold sweeping flight, and a loud snap of the beak is heard when one is caught. Between Dum Dum and Belghurriah stations on the E. B. S. Railway, during the season, several of these birds may always be seen on the telegraph-wires.

83. *PALÆORNIS TORQUATUS*. (Rose-ringed Paroquet).

Common, generally distributed, and resident. Breeds during the hot season and at the beginning of the rains, in holes in trees, temples, ruined buildings, &c., as well as

in inhabited bungalows. They are more or less gregarious throughout the year, and do great damage to the crops.

This is one of the commonest birds kept in confinement, as well as *P. eupatrius*, which, however, is not found in a wild state in the district.

84. *PALÆORNIS PURPUREUS*. (Rose-headed Paroquet.)

Not common, and only visiting the district during the rainy season, when they occur in small flocks, and at this time are always in bad plumage.

85. *STRIX JAVANICA*. (Indian Barn-Owl.)

One was shot at Bally. I have often heard the cry of this bird in the night, at all times of the year, though I have never seen one.

The remark that I have seen signs—pellets, feathers, &c.—of this bird in the ruined gateways around Akbar's tomb at Secundra, near Agra, may perhaps be of interest, though it has no reference to the Calcutta district.

86. *ASIO ACCIPITRINUS*. (Short-eared Owl.)

On Oct. 25, 1890, when out Snipe-shooting, one was shot at as it rose from a bund in the paddy-fields, and was brought down, apparently uninjured, for it was carried the rest of the day perched on a coolie's arm, without attempting to escape; I kept it for some months in a cage in perfect health, but it eventually escaped. This was the only one I saw in this part of the country.

87. *KETUPA CEYLONENSIS*. (Brown Fish-Owl.)

Fairly common and universally distributed. Breeds during the cold season. One of a pair with two full-grown young was shot at the end of 1890 near Khardah.

88. *SCOPS LETTIA*. (Scops Owl.)

I shot a male bird of this species on May 26, 1889—one of a pair roosting among the leaves of a "tar" palm.

89. *CARINE BRAMA*. (Spotted Owlet.)

Very common, universally distributed, and resident. As often seen abroad during the day as in the night. It is an exceedingly noisy bird in the evening, and the author of

most extraordinary sounds. These birds are most frequently seen in pairs.

90. *CIRCUS ÆRUGINOSUS*. (Marsh Harrier.)

Very plentiful in the cold season in the jheels and open country surrounding them; they remain frequently until the middle of April, but leave the district during the hot weather and rains, returning again in September. Birds in dark brown plumage with yellowish-white heads are most plentiful.

They feed principally on frogs, fishes, and snakes, and I have seen one trying to carry off a fish, in shallow water, nearly as heavy as itself.

91. *CIRCUS CYANEUS*. (Hen Harrier.)

Plentiful during the cold season, arriving and departing about the same time as *C. æruginosus*, and inhabiting the same sort of country as that bird.

This Harrier often preys on Snipes which have been shot by sportsmen and which it carries off before one can pick them up. I saw one, flying low over some standing rice, flush a Snipe and, after chasing it for a short distance through all the twists and turns in its flight, strike at it, catch it in its claws, and instantly drop down among the paddy to devour it. I drove off the Harrier and picked up the Snipe, which was quite dead, but none of it was yet eaten.

92. *CIRCUS MELANOLEUCUS*. (Pied Harrier.)

A cold-weather visitor, but not common; rarely more than one or two specimens are to be seen in a jheel where there are, perhaps, dozens of the other two sorts of Harriers.

93. *ASTUR BADIUS*. (Shikra.)

A common resident and generally distributed. Breeds during April and May, building a nest not unlike an untidy Crow's. I took three eggs from a nest on May 10, 1891, and a month later the birds had again laid in it and I took two eggs. The crop of one that had been shot contained the remains of a lizard and an unfledged young bird. I have seen one of these Hawks visit nests of *Sturnopastor contra* and prey on the young.

94. *AQUILA CLANGA*. (Spotted Eagle.)

One or more of these birds may generally be seen in the vicinity of the larger jheels, and then remain in the district all the year; but there is a great addition to their numbers in the cold season.

95. *SPIZAËTUS LIMNAËTUS*. (Changeable Hawk-Eagle.)

One of the commonest Eagles in the district; universally distributed and resident. An old nest was found near Sodepore, which the birds appeared to be repairing, in March; both birds were in dark brown plumage; but another, shot near the same place, was in very pale plumage, and pure white beneath, marked with dark spots.

96. *SPILORNIS CHEELA*. (Crested Serpent-Eagle.)

Common, universally distributed, and resident. Breeds during the hot season. I found a nest on May 10, 1891, in a mango-tree—a large structure of sticks, many with the leaves on, resembling a small nest of *Pseudogyps bengalensis*—which contained one young bird, with the feathers on the body only just beginning to grow, but with the crest already fully developed. Its eyes were very pale yellowish white. It was very fierce, erecting its hood and biting savagely, but did not attempt to use its claws, for its legs appeared to be very delicate and hardly able to support the weight of the bird.

I once saw one attempt to carry off a dead mongoose that had been shot.

97. *HALIAËTUS LEUCOGASTER*. (White-bellied Sea-Eagle.)

This species has been noticed on several occasions, usually in the larger jheels, but does not appear to be plentiful.

98. *POLIOAËTUS ICHTHYAËTUS*. (White-tailed Fishing-Eagle.)

Not uncommon in the neighbourhood of the larger jheels, and resident. This species has a wild ringing cry, which can be heard at a great distance. Also noticed at Mogra, E. I. Railway, on the river there.

99. *HALIASTUR INDUS*. (Brahminy Kite.)

Very common, universally distributed, and resident. Among the shipping in the Hooghly, in Calcutta, they are commonly seen lining the rigging with the Pariah Kites or snatching garbage from the surface of the water.

They assemble in great numbers at any spot where a quantity of food attracts them, and during the hot season they watch the drying up of the jheels and tanks attentively. When the natives, in many of the jheels in the hot season, are draining off the little remaining water in the pools and tanks, and searching for fishes and shell-fish in the mud, they are always attended by numbers of these birds, which swoop down, frequently snatch up a fish from among the crowd of people, and then, circling round overhead, devour it on the wing.

They breed in January and February, but most usually in the latter month, and almost invariably build in cocoanut-palms, especially in those groves of these trees which grow around tanks in the native gardens in this district, and few of these groves are without a pair of the birds breeding in the palms. The nest is thin and loosely constructed of sticks, sometimes slightly lined with grass or reeds, and the eggs are usually two in number.

They are a great nuisance to Snipe-shooters, for they wait upon them and often succeed in carrying off wounded birds.

Their cry is a querulous, cat-like wail.

100. *MILVUS GOVINDA*. (Pariah Kite.)

Exceedingly common everywhere. About the middle of June all the Kites, both old and young, leave the district entirely, and do not return again before the middle of August. Two broods are sometimes reared in the year, and the earliest date when I have seen signs of their beginning to build was in September, and the latest in April, though the greater number breed from November to February. Young birds hatched about November 12 were perched on the edge of the nest ready to fly on January 12; a week later the old birds were again repairing the nest and a second brood was being reared on March 14.

I have known a pair attempt to breed in an old nest of *Corvus macrorhynchus*, and another pair succeeded in bringing up their brood in a nest of *Pseudogyps bengalensis*, in which the Vultures had already reared a young one the same year. It not unfrequently happens that one young bird is much forwarder than the others, and therefore leaves the nest some time before them. If a nest has been once robbed the birds often lay again in it. Building materials are sometimes carried to the nest in the claws as well as in the beak. Every evening numbers of these birds fly across the Hooghly from the Barrackpore side to roost in the casuarina-trees near the church at Serampore, while others find roosting-places in some of the high trees on the Trunk Road outside Barrackpore Park. During a flight of locusts which visited the district in November 1890, hundreds of Pariahs, Brahminy Kites, and Crows pursued the insects, snatching them in their claws and devouring them on the wing.

101. *ELANUS CÆRULEUS*. (Black-winged Kite.)

A resident species, but not common. I wounded one—I mistook it for a Tern, as it somewhat resembles one on the wing—which flew some distance before it fell; but directly it dropped it was pounced on successively by a Brahminy Kite, a Pariah, and a Changeable Hawk-Eagle, each of which in turn attempted to carry it off. Although they each succeeded in carrying it up several times, the plucky little bird compelled them, by struggling and fighting so fiercely, to relax their hold, until I had run up and driven the birds off. It sometimes hovers like a Kestrel, but its wings are not used so stiffly as that Hawk's.

They are usually seen in the more open country, especially round the edges of the large jheels or among scattered trees in the open grass-jungle.

102. *PERNIS PTILORHYNCHUS*. (Crested Honey-Buzzard.)

A permanent resident, sparingly distributed throughout the wooded parts of the district.

In 1890 a pair of these birds built a nest in a high casuarina-tree in a compound at Titaghur, and though the

same pair were constantly about the place the year before, they did not breed. The nest was begun in March and was a comparatively small, flimsy structure, built entirely of casuarina-twigs, broken off green from the tree in which the nest was built, and with the leaves on. I never saw either bird carry any materials to the nest from anywhere else, and the only time they spent in building was a little while in the early morning before 9 A.M. When at the nest the female continually uttered a shrill, querulous cry. I got two fresh eggs from this nest on May 10, and the male bird, a small dark-plumaged specimen, was shot off them; he sat so close that I had to shoot at the nest with a light charge before he would leave it. A fortnight later the female—a large and very light-coloured bird—was shot; she had in the meantime found another mate, and, having pulled down the old nest, contemplated building there again. In less than a week afterwards the surviving male bird reappeared, paired with a light-coloured female, and for the rest of the year they remained about the place, but did not breed. The next year this same pair were evidently breeding close by, though I did not succeed in finding their nest. The eggs were beautiful specimens, one being so densely spotted with blood-red as to conceal the ground-colour, the other less thickly spotted with paler red on a yellowish-white ground.

When disturbed or irritated, this bird erects the feathers round its head into a sort of hood, much as *Spilornis cheela* does.

They are easily distinguished on the wing by the small size of the head and the large tail, and the legs are usually stretched out straight beneath the tail.

103. FALCO JUGGER. (Lugger Falcon.)

Resident, sparingly distributed, and not very common. In the same casuarina-tree in which the Honey-Buzzards—mentioned above—had built in 1890, a White-backed Vulture built at the end of the same year and brought off one young bird. On January 23, 1891, having seen a pair of Falcons in and around the nest for some time, I sent a coolie up to

it, but he found only the broken shells of two or three Falcons' eggs. As he climbed up, the birds screamed and dashed through the boughs and around the tree, every now and then making feints at him, much to his alarm. I once saw one of these Falcons pounce on and fly off with a Blue Jay from close beneath the legs of the horses in a ticca-garry, the Jay having swooped down on to an insect on the ground just in front of the horses' heads.

104. *TINNUNCULUS ALAUDARIUS*. (Kestrel.)

A winter visitor, but not plentiful.

105. *GYPS INDICUS*. (Long-billed Vulture.)

Resident, but only locally distributed. At Mogra, on the E. I. Railway, they are plentiful; but about Titaghur they are scarce compared with the numbers of *Pseudogyps bengalensis*. A few breed near Khardah in tall "tar" palms.

106. *PSEUDOGYPS BENGALENSIS*. (White-backed Vulture.)

Very plentiful, resident, and universally distributed. Just before the time comes for repairing their nests they often collect in immense flocks and wheel about in the sky, not appearing to be assembled together by the attraction of any food. They commence repairing their nests as early as September, and break off large boughs covered with leaves for this purpose. The large casuarina-trees around Titaghur and in Barrackpore Park are favourite breeding-sites, but I have besides found their nests in mango, peepul, banyan, and tamarind trees, and in "tar" and date palms. The greater number lay in November and the nests usually contain young in February. Often the old bird will sit so close on the egg that it is impossible to drive her off without the aid of a stick, and even then I have seen one refuse to move further than the edge of the nest. When the nest has been once robbed, the bird often lays again soon after.

In the young bird the eyes are dark blue.

Anyone who has watched these birds sailing about without apparent aim in the upper air cannot fail to be convinced that they discover their food by sight—each bird circling about at a great height, intently taking note of all

objects below, as well as what his comrades are doing. Suddenly one Vulture espies a likely-looking object, and commences to circle slowly downwards towards it, while the other Vultures nearest instantly become interested and hurry up to see what it has found. By this time the lucky finder will have wheeled down to the carcass with great sweeps, and with a rush of wings will have perched close to it. After waiting and looking round for a few moments, he will hobble towards it and commence tearing it with his beak, and, standing on it, will pull out great beakfuls from the part held down by his feet. The other Vultures, seeing it is a worthy prey, will now all be sweeping and circling down to it, and from every point of the compass will come hurrying up others, which from a distance have observed those birds nearest to them flying towards the point where the carcass is. Soon it will be surrounded by a tearing, gobbling, and fighting crowd,—until perhaps a Black Vulture (*Otogyps calvus*) appears upon the scene, when all, except perchance one or two bolder ones, retire and make way for him, standing around the carcass enviously until he has eaten his fill, and afraid to approach while he is there. After gorging themselves, leaving nothing remaining but the bones, they will remain seated around the spot until the meal is digested, when they, one by one, after a short run, aided by gigantic flappings of the wings, will launch out into the air, and, with grand swaying flight, betake themselves to their roosting-places for the night.

They are never seen carrying victuals to their young, so they probably feed their offspring on disgorged food.

107. *OTOGYPS CALVUS*. (Black Vulture.)

A permanent resident, but not at all plentiful. Occasionally one may be noticed among a crowd of *Pseudogyps bengalensis* and *Gyps indicus*, but never associating with the common herd.

108. *TANTALUS LEUCOCEPHALUS*. (Pelican Ibis.)

On June 2, 1889, I saw an immense flock of these birds resting in the dry paddy-fields near Pundua on the E. I. Railway.

109. ARDEA PURPUREA. (Purple Heron.)

Resident, but uncommon ; only solitary pairs noticed in some of the larger jheels.

110. BUBULCUS COROMANDUS. (Cattle Egret.)

Resident, universally distributed, and common, but I have never found them breeding in the immediate neighbourhood, though they are equally abundant in the breeding-season as at any other time. Several of these birds are usually in attendance on any cattle feeding near their haunts.

111. ARDEOLA GRAYI. (Pond Heron or Paddy-bird.)

Extremely abundant, resident, and generally distributed. Usually found breeding in large colonies, occasionally in some tree standing in the midst of a crowded bazaar ; but not unfrequently solitary nests are found ; and I have heard of their breeding in compounds in the middle of Calcutta itself. I visited a breeding colony close to Kissengunge station on the E. B. S. Railway, where the birds were nesting in two small peepul trees in the company of *Phalacrocorax pygmaeus*. On August 31, 1890, the Herons mostly had eggs—some quite fresh and others ready to hatch—while the Cormorants had full-grown young, which, in many cases, struggled out of the nest and fell into the floods beneath the trees. On June 7, 1891, the Herons again had eggs in all stages of incubation, and many young already hatched, but no Cormorants were to be seen anywhere near, and the Herons appeared to be occupying their old nests, which are larger and more strongly constructed. On the trees being climbed and the birds disturbed, both old and young of each species disgorged quantities of fish, frogs, and reptiles of all sorts, which fell on us and on the ground beneath in a perfect shower.

These Herons, and also their eggs, vary greatly in size ; their nests are thin, flimsy structures of sticks, not unlike Crows', and the number of eggs varies from three to five. I once found a nest in the top of a cocoanut-palm, which had a quantity of dead reeds mingled with the sticks.

112. *BUTORIDES JAVANICA*. (Little Green Heron.)

A permanent resident, but not abundant in the immediate neighbourhood; a very shy and solitary species, usually found on the edges of tanks quite surrounded by jungle: on being disturbed it flies up into the boughs of some overhanging tree, and by running nimbly along them reaches the outside of the tree, whence it takes flight into the next, and by repeating the proceeding is soon at some distance off, while its disturber is still examining the boughs among which it was first lost sight of.

At Mogra, on the E. I. Railway, however, they are fairly plentiful on the banks of the river there, where it is shut in by trees on either bank. I have occasionally flushed one out among the grass in a jheel and among paddy, but rarely at any distance from tree-jungle.

113. *ARDETTA CINNAMOMEA*. (Chestnut Bittern.)

Nowhere very plentiful, a permanent resident, of extremely shy and skulking habits, pretty generally distributed. I once found one caught in a bamboo fish-cage in a jheel near Barrackpore. In certain localities one or two of these birds are always to be found.

114. *ARDETTA SINENSIS*. (Little Yellow Bittern.)

I have noticed this species only in one locality—in a jheel near Nattagore, where they are plentiful among the tall reed-jungle in the centre of the jheel, and may be seen perching on the stems of the reeds. On being disturbed they drop down into the thicker growth, and escape by skulking among it.

115. *BOTAURUS STELLARIS*. (Common Bittern.)

Rare, and a cold-weather visitor only. On one or two occasions I have flushed them when snipe-shooting in paddy-fields.

116. *LEPTOPTILUS ARGALA*. (Adjutant.)

A visitor during the rainy season to most districts, though they probably are found all the year round at the Salt Lakes near Calcutta, where they feed with Vultures and Kites on

the refuse from the town; but to the city itself they are annually becoming rarer visitors.

They are occasionally to be seen soaring about in the air in the company of Vultures on the look-out for food.

117. DISSURA EPISCOPUS. (White-necked Stork.)

Only once seen near Pundua on the E. I. Railway on April 7, 1889.

118. CICONIA ALBA. (White Stork.)

One of a pair was shot on January 20, 1889, in a jheel near Howrah.

119. PHALACROCORAX PYGMÆUS. (Little Cormorant.)

Common, universally distributed, and resident. As mentioned above, I found it breeding, in August 1890, at Kissengunge, in the same tree as *Ardeola grayi*, but not in any great quantities. The young appeared to be most ravenous, and there was a constant stream of the old birds to and from the nests, carrying food to the young, which were fed on small fishes and frogs. Throughout the rainy season, solitary birds, or perhaps three or four, are to be seen in most of the jheels around Titaghur, but they do not appear to be nesting in the immediate neighbourhood.

120. PELECANUS, sp. inc.* (Pelican.)

On October 21, 1890, I saw four Pelicans, white with dark wings, flapping slowly northwards up the course of the river, and on April 30, 1891, two were seen on the sandbank in the river opposite Titaghur. When seated, they were apparently pure white, but on being put to flight by an approaching boat they showed dark primaries.

121. NETTAPUS COROMANDELIANUS. (Cotton-Teal Goose.)

Though such large numbers of this species find their way into the markets in the cold season, I have met with it only

* [This Pelican is probably the Spot-billed Pelican (*Pelecanus manilensis*), of which four specimens, obtained by Mr. W. L. Selater in Calcutta, are now living in the Zoological Society's Gardens. It is a close ally of *P. rufescens* of Africa, but does not appear ever to get the wholly rufous back.—P. L. S.]

once wild, when the male of a pair was shot on February 15, 1891, on a small tank near Titaghur.

122. *SARCIDIORNIS MELANONOTUS*. (Comb Duck.)

Solitary individuals are occasionally noticed on the river, but principally towards the end of the rains.

123. *ANAS BOSCAS*. (Wild Duck.)

124. *ANAS STREPERA*. (Gadwall.)

125. *SPATULA CLYPEATA*. (Shoveller.)

126. *QUERQUEDULA CRECCA*. (Teal.)

127. *FULIGULA NYROCA*. (White-eyed Duck.)

128. *FULIGULA CRISTATA*. (Tufted Duck.)

Close to Titaghur, Ducks of any sort are rarely met with, but in January 1891, in a jheel about five miles to the eastward, towards Baraset, we found a flock of two or three hundred Ducks of all sorts, among some tall reeds growing in deep water in the middle of the jheel. Among the Ducks the above-named species were identified, but specimens only of *F. nyroca* and *A. strepera* were procured.

129. *ÆGIALITIS CURONICA*. (Little Ringed Plover.)

Fairly plentiful on the sandbanks and shores of the Hooghly in the cold season; at the end of July 1891 I saw several on the sandbank opposite Titaghur.

130. *LOBIVANELLUS INDICUS*. (Red-wattled Lapwing.)

Resident, but not plentiful, and found only in and around the larger jheels, collecting into small flocks in winter.

131. *STREPSILAS INTERPRES*. (Turnstone.)

On October 5, 1890, I flushed one at Mogra, on the E. I. Railway, in a wet paddy-field, when out snipe-shooting.

132. *GALLINAGO STHENURA*. (Pintail Snipe.)

133. *GALLINAGO CÆLESTIS*. (Fantail or Common Snipe.)

Very abundant in the cold season, and generally distributed at the beginning of the season, though, as the country begins to dry up, they naturally become more local, congregating in localities where water still remains.

The first arrivals come in August, the earliest date when I have seen one being August 18; but the great bulk arrive in

September, and they are probably most numerous during October and November. The greater number leave again in February; but many remain throughout March and even into April in exceptionally cold seasons, and I flushed one from the edge of a tank close to some native huts on April 30, 1891.

Of the vast numbers, however, which visit the plains in the winter, I have never heard of any remaining throughout the year, though there are most likely places for them to breed in many jheels, with an abundant supply of food throughout the year.

In this district the "pintail" is most plentiful, three-fourths of those shot being of that species; but in certain jheels "fantails" are always more numerous. The fantails certainly arrive later than the pintails.

A friend of mine shot a Snipe on the summit of Sundukphu—a mountain facing Darjeeling—in October.

Snipe are seldom seen running, for, unlike the Sandpipers, when disturbed they endeavour to conceal themselves by crouching down close to the ground.

134. *GALLINAGO GALLINULA*. (Jack Snipe.)

A winter visitor, uncommon, and very sparsely distributed throughout the district.

135. *RHYNCHÆA CAPENSIS*. (Painted Snipe.)

Resident, generally distributed in all suitable localities, but never very plentiful. On April 12, 1891, the female of a pair, brought down at one shot, had largish eggs in her ovaries; the male, which was only wounded, on being approached spread his beautifully eyed wings and tail and made a sort of hissing noise. On May 11, 1890, in a jheel near Nattagore, I flushed a pair of old birds, which rose with four young ones just able to fly, and sought refuge in a large reed-brake, on the outskirts of which they had been disturbed.

136. *TRINGOIDES HYPOLEUCUS*. (Common Sandpiper.)

A common winter visitor only to the shores and sandbanks of the Hooghly, and never in the jheels, being invariably

found on running water. They usually arrive in September and remain as late as the end of April; but I shot the male bird of a pair in breeding plumage on July 26, 1891, on a sandbank opposite Titaghur.

137. *TOTANUS GLAREOLA*. (Wood Sandpiper.)

Exceedingly plentiful during the cold season, especially on its first arrival in August, when it occurs in large flocks in the wet paddy-fields; as the water dries up and the country becomes parched they become scarcer, but a good many remain even into the middle of April.

138. *HELODROMAS OCHROFUS*. (Green Sandpiper.)

A winter visitor, but never occurs in large numbers, and always found solitary or in pairs, usually on the edges of small tanks, more rarely in jheels and paddy-fields, and not unfrequently on the edges of streams.

139. *METOPIDIUS INDICUS*. (Bronze-winged Jacana.)

Resident and abundant, especially in the larger jheels; in many of the smaller ones they remain until the water has almost entirely dried up, before leaving them for other quarters. They are seldom met with on the smaller tanks. If surprised in open water, they often seek safety by diving, and will remain under water for some time, with only the head above the surface, but they do not appear to swim under water.

140. *HYDROPHASIANUS CHIRURGUS*. (Pheasant-tailed Jacana.)

Uncommon, resident. During the rainy season of 1891 a pair established themselves on a ditch at the side of the E. B. S. Railway, between Belghuriah and Dum Dum stations; but, with this exception, I have never met with them anywhere except on the larger secluded jheels, which do not dry up during the hot season.

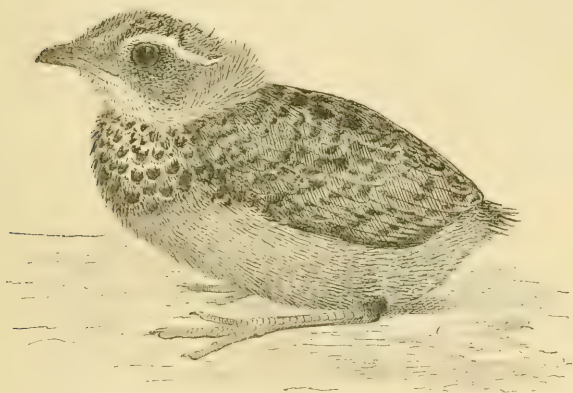
141. *TURNIX TAIGOR*. (Bustard-Quail.)

Common, universally distributed, and resident, found alike in wet and dry situations. I have several times, when snipe-shooting, had a "right and left" at a Snipe and a Bustard-

Quail. They are always found solitary or in pairs, and during the breeding-season never stray far from their nests.

The eggs are laid in April, May, and June, and are either two or four in number, but I have found tiny young ones at the end of October. The nest is always built in some dry situation, among grass or brambles, often at the foot of a bush, and all I have ever found were flimsy domed structures of dry grass with a hole at the side, very like a field-mouse's nest.

Fig. 3.



Chick of Bustard-Quail (*Turnix taigoor*).

I subjoin a description of the chick now figured (fig. 3):—Throat yellowish white. Top of head mottled brown and pale yellow; cheeks bare and blackish, with lines of tiny white feathers; a line of white above the eyes, which are brown; a kind of hood or ruff of long hairy feathers at back of head. Beak yellowish and black at tip. Breast white, spotted with black. Wings brownish, and, except the primaries, barred with dark and yellowish brown; back marbled black and yellowish brown, with two lines of white running down it. Tail mottled brown. Flanks and underparts sandy-coloured. Legs and feet grey and shiny; thighs blackish.

The females are exceedingly pugnacious, and many are caught by natives in trap-cages, a hen bird being used as a

call-bird ; the male birds, however, are very rarely caught in this way. I have had as many as eighteen females brought to me which had been thus captured, without a single male bird, and, as they were caught during the breeding-season, some of them had even laid eggs in the basket in which they were brought to me.

142. *TURNIX TANKI*. (Larger Bustard-Quail.)

Uncommon, resident, and generally distributed, differing very little in its habits from *T. taigoor*. Breeding during April and May, the nest being built among grass or brambles, and exactly resembling that of *T. taigoor*, though the eggs are considerably smaller. When in the nest the bird sits very close, and I have even removed the top part of the nest before the bird flew off.

On the wing, this bird had a more reddish appearance than the Bustard-Quail.

143. *PORPHYRIO POLIOCEPHALUS*. (Purple Coot.)

Resident and very locally distributed. They are occasionally to be seen on a tank at the side of the E. B. S. Railway near Dum Dum. In January 1891 I observed great numbers among some tall reeds in the midst of a jheel near Baraset, and, wading through the water and pushing through the reeds, caused them to rise with a great commotion, several at a time.

144. *FULICA ATRA*. (Common Coot.)

I have only once met with this species, in January 1891, in the same locality as the Purple Coot, mentioned above.

145. *GALLICREX CINEREUS*. (Water-cock.)

Generally distributed and resident, but not very often seen on account of its partiality for thick cover in the jheels and usually inaccessible places, though it is sometimes met with in paddy-fields and on the edges of small tanks.

146. *GALLINULA CHLOROPUS*. (Common Moorhen.)

Fairly common, resident, and found in small numbers in most of the jheels and on the larger tanks, especially those

which are surrounded by thick bushes overhanging the water, and in such they usually construct their nests.

147. *ERYTHRA PHENICURA*. (White-breasted Waterhen.)

Very much commoner than the last-named; resident and generally distributed. They seem to prefer the smaller tanks in the jungle to the large open jheels, and most of these small ponds have a pair or more of these birds on them. They breed during the rains, constructing a nest either floating on the surface of the water among reeds or often in a quite exposed situation, or in the bushes overhanging the water, or built high up among a thick clump of reeds. The young leave the nest as soon as they are hatched, but return to roost in it at night; during the day, if disturbed, they skulk among the herbage or bushes around the tank. I have often found single young ones, apparently lost, wandering among the paddy-crops and calling plaintively.

148. *PORZANA MARUETTA*. (Spotted Crake.)

149. *PORZANA BAILLONI*. (Baillon's Crake.)

150. *PORZANA FUSCA*. (Ruddy Rail.)

151. *HYPOTENIDIA STRIATA*. (Blue-breasted Banded Rail.)

On February 1, 1891, in a village on the Nattagore Road, near Sodepore Station, E. B. S. Railway, a coolie brought me a large bamboo fish-trap, in which were several live Rails of the above-mentioned species, as well as one Water-cock. The greater number were of *P. maruetta*, and there were four specimens of *P. bailloni*, only one of *P. fusca*, and three of *H. striata*. All of them had been caught in the adjacent jheel—probably in fish-traps.

All these Rails, however, are found in most of the jheels, and in some places abundantly, running over the floating weeds and taking refuge in the thicker herbage when disturbed.

152. *TACHYBAPTES FLUVIATILIS*. (Little Grebe.)

Springly distributed throughout the district, in the cold season only, and always on open water.

V.—Notes on some Tunisian Birds.

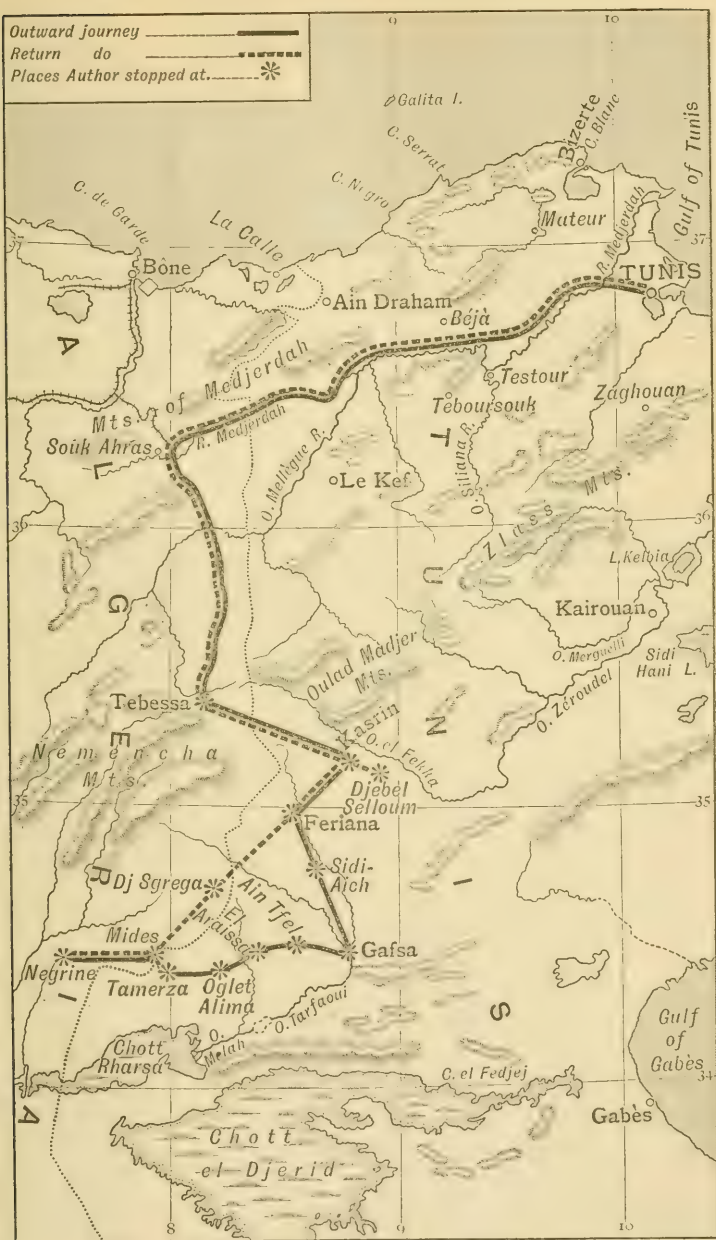
By J. J. S. WHITAKER, F.Z.S.

IN the early part of this year (1893), while on a shooting expedition in the south of the Regency of Tunis, I met with several interesting species of birds, some of which are sufficiently uncommon to merit record in 'The Ibis.' Acting on the kind suggestion of Mr. Selater, I proceed therefore to give a short sketch of my journey, with a list of the species of which I actually secured specimens, or of the identity of which I had no doubt.

I would, however, first premise that being totally unprepared for bird-collecting, and still less with any idea at the time of writing about them, and, moreover, having little time at my disposal, I was unable to secure as many specimens as I could have wished, the few I obtained being mostly shot when I was actually *en route* from one place to another.

Passing over the journey to Tunis, and a few days spent there in making preparations, I may say I finally left that town by railroad for Tebessa on the 23rd of February, having previously despatched my men and horses, with tents and the heavier impedimenta, by road *via* Kairouan, with instructions to meet me at Kasrin, some 50 miles east of Tebessa. The railroad journey from Tunis as far as Souk-Ahras is well known to travellers, being on the direct route to Algiers, but the branch line from Souk-Ahras to Tebessa has only recently been opened to the public. The country for a considerable distance after leaving the junction is mountainous and beautifully wooded, the scenery equalling that of the lovely Medjerda Valley, through which the main line further north runs for several miles. Leaving the hilly country at last, we traversed vast plains and tracts of cultivated land, and running always due south we eventually reached Tebessa at 9 P.M., after a journey of 16 hours from Tunis.

The following day I devoted to sight-seeing, for the ruins of Tebessa, the ancient Theveste of the Romans, are amongst



Walker & Boutall sc.

MAP OF TUNIS.

the most important on the African continent. On the 25th of February I made an excursion to some marshes about 10 miles north of Tebessa, where I had been told I should meet with an abundance of water-fowl of all sorts, but was disappointed, Snipe and a few Ducks being all that I saw. On the 26th, having hired mules for the journey to Kasrin, we made an early start, and after nine hours of slow travelling across dreary alfa plains, separated by ridges of pine-clad hills, we arrived at an Arab "*douar*," or encampment, where our guides advised our passing the night, as it was too late to reach our destination before dark. Resuming our journey the following morning, as soon as it was light enough to distinguish the track, for road there was none, we finally reached Kasrin about midday.

During this journey I saw but few birds, some pairs of Ravens (presumably *Corvus tingitanus*) and an occasional Lesser Bustard (*Otis tetrax*) on the plains, and *Saxicola leucura*, *Athene glaux*, and *Caccabis petrosa* among the hills, being the most noticeable. The pretty little marmot *Ctenodactylus gundi* was also abundant among the rocks.

At Kasrin, where, instead of the flourishing town or village I had been led to expect, there was literally nothing but Roman ruins and a few deserted Arab huts, we spent four days very pleasantly, the air being splendid and the surrounding country and scenery charming. During my stay there, I made excursions to the neighbouring mountains in search of mouflon (*Ovis tragelaphus*) and mountain antelope (*Gazella cuvieri*), but only succeeded in getting two of the latter, both females, while of the former we only saw one, and that without being able to get a shot at it. In the way of birds I obtained nothing very rare at Kasrin, although, as is always the case in these southern parts, where water is abundant, there was no lack of bird-life, Kestrels, both *Tinnunculus alaudarius* and *T. cenchris*, *Athene glaux*, *Columba livia*, and some of the Chats and Redstarts being plentiful among the ruins and rocky hills, while Larks, Wagtails, Linnets, Thrushes, and Partridges abounded in the sprouting corn-fields and among the slender bushes lower down near the water. The

first Swallows of the season, both *Hirundo rustica* and *Chelidon urbica*, I also saw here. I further saw, although without being able to identify them, one or two Eagles, Harriers, Grey Shrikes (probably *Lanius dealbatus*), Ravens, and Starlings.

On the 3rd of March we left Kasrin for Feriana, 22 miles to the S.W., and after a steady tramp of seven hours along a first-rate road, recently constructed by the French, we reached our destination, and put up at the only inn of which the place boasts.

Feriana is an Arab village of some importance, with a French military station, post and telegraph office. It is extremely well situated, and has a dry bracing climate, practically rainless, but never hot, I was told, even in the middle of summer.

On the 5th of March we started for Gafsa, and leaving the high road, such as it is, on our left, struck across country in a southerly direction, entering upon a succession of vast alfa plains, which extend almost the whole way to Gafsa. Here and there a few bare thorn-bushes relieved the monotony of the level plain, and perched on one of these we invariably saw the pale Grey Shrike (*Lanius dealbatus*), while an occasional Hoopoe flitted across our path. Hares were most abundant on these alfa plains, long-eared and long-limbed (*Lepus mediterraneus*). Towards evening we reached the neighbourhood of Sidi-Aich, where we encamped for the night. The next morning, after a very cold night, during which the thermometer must have gone below freezing-point, we struck tents, and continued our journey to Gafsa. The country now became less monotonous, patches of cultivated land interspersed with Sarib thorn-bushes every now and then meeting the eye, and here I saw for the first time the Algerian Bush-Babbler (*Argya fulva*). *Lanius dealbatus* was also very common about here, and *Pica mauritanica*, although I failed to secure a specimen of the latter. In the sprouting corn I also flushed several Quails (*Coturnix communis*). Later on in the day, when nearing Gafsa, I came across the pretty little Desert Bullfinch (*Erythropsiza githaginea*), *Alauda macrorhyncha*, and *Alaemon alaudipes*.

On arriving at Gafsa I visited the Caid, and presented a commendatory letter from the French Resident at Tunis, with which I had taken the precaution to provide myself, and which at once secured us lodgings in the guest-house reserved for such occasions. The next morning I paid a visit to the Gafsa oasis in search of birds, but only succeeded in obtaining specimens of *Fringilla spodiogena*, which was very abundant here, and of one or two other birds. I saw a good many specimens of *Turtur senegalensis*, but did not obtain one. The Gafsa oasis is rather more than a mile in length by about half a mile at its greatest width, and, besides date-palms, contains several thousands of other fruit-trees, with a most luxuriant undergrowth of cereals and vegetables, all watered abundantly by a warm spring, which has its rise in the town. This spring was, I believe, celebrated in the time of the Romans, its waters being used both for drinking and bathing purposes. I saw several fishes in one of the tanks (probably *Cyprinodon dispar*). On my return to the town, I visited the Mosque, which is here accessible to visitors, and while there I saw for the first time *Emberiza saharae*, one of which was on a window-sill within a yard of me. Later on in the day I obtained specimens of this interesting species.

I should have liked to spend another day or two at Gafsa, but my time being short, I left again on the 8th of March for Tamerza, some 70 miles due west, and encamped that evening on a high plain near Ain-Tfel. During the day I met with *Saxicola mæsta* for the first time, and *Ammomanes deserti*. *Alauda macrorhyncha* was also abundant about here. The following day we reached El Araïssa, after some of the stiffest mountain travelling it is possible to imagine, and encamped on an open grass-plot near water, the first we had come across since leaving Gafsa. On our way I saw a pair of *Otis tarda* and attempted a stalk, but without success. I also saw several small flocks of *Pterocles arenarius* and one or two pairs of *Neophron percnopterus*. The next day, accompanied by a native sportsman, I tried the surrounding mountains thoroughly for mouflon, but without any luck, all the animals I saw being a pair of

hyænas and a wild boar. *Saxicola leucura*, *Ruticilla moussieri*, *Ammomanes deserti*, and *Alauda macrorhyncha* were common about here, and I also saw one or two specimens of *Lanius dealbatus*, and a pair of Alpine Swifts (*Cypselus melba*).

On the 11th of March we left for Oglet-Alima, where we encamped near some water-holes dug by the Arabs in the dry bed of the Oued Seldja, a branch of the river Melah. I may here remark, *en passant*, that these southern rivers are nearly always dry; it is only after very heavy rains that they have any water in them. On the journey from El Araïssa I secured specimens of the following birds, viz., *Saxicola mæsta*, *S. deserti*, *S. stapazina*, *Lanius dealbatus*, *Ammomanes deserti*, *Alauda macrorhyncha*, *Pterocles arenarius*, and *Eudromias morinellus*. I also shot a jackal in the act of stalking some gazelles, which I had not previously noticed.

The next morning about 7 o'clock I saw several flocks of Sand-Grouse flying overhead, which proved to be *Pterocles coronatus* coming to drink at the water-holes, and I soon obtained nine specimens. Later on in the day I saw several small flocks of *P. arenarius*, but, except for an occasional straggler, *P. coronatus* had disappeared from this locality after 10 o'clock. Besides Sand-Grouse I got a few more Chats, Larks, Greenfinches, and Desert Bullfinches here; but my small supply of shot-cartridges was rapidly coming to an end, so I was obliged to economize my ammunition as much as possible, and to disregard all except the rarer species. On the 13th of March I shot a few more Sand-Grouse (*P. coronatus*), which were back at the water-holes again, and then started for Tamerza, our road lying across sandy plains covered with scrub-vegetation and thorn-bushes. I here saw a good many small birds, though nothing new, and I also observed two or three Eagles, but without being able to identify the species. Tamerza was reached in the afternoon, and we were allotted the usual guest-house, which, however, was here little better than a stable. The town, if it can be dignified by that name, is eminently Arab, without a single European inhabitant; the houses are mere hovels, for the most part built of loose rubble, with a thick plastering of mud to

keep the walls together. The place is, however, picturesquely situated on a plateau of rocks overlooking a charming oasis, with an abundance of water. Unfortunately I had not time to visit this oasis, as we left again at an early hour the following morning for Negrine. After travelling for two or three hours in a northerly direction through some fine mountain scenery, we reached Mides, a small town near the Algerio-Tunisian frontier, and then branching off to the west again we encamped for the night near the Djebel Refou, about halfway between Tamerza and Negrine.

The weather here was most oppressively close and trying, and the water, moreover, was not good. The following day I tried this mountain for mouflon, but again without success, although my stalker saw some mountain antelopes. My climb to the top of Djebel Refou, however, was not without its reward, for I obtained a glorious view of the desert, stretching away to the south as far as one could see. On this mountain I saw several of the larger Raptores, among them, I believe, *Gypaëtus barbatus*, but, being after bigger game, I did not secure any specimens. Resuming our journey the following day, we arrived at Negrine late in the evening, after a long march across arid scrub-plains, where I saw several herds of dorcas gazelles and numberless jerboas and other small rodents, all of the exact colour of the sandy soil. The lizards, too, were all of the same hue, and *Adonis aestivalis*, var. *lutea*, with its yellow flower, replaced the ordinary deep red flower of the north. About Kasrin and Feriana I had observed this flower of an orange colour between the two. On these sandy plains my men found some chameleons and one or two horned vipers (*Cerastes cornutus*). These snakes are very venomous, their bite, it is said, being quickly followed by death.

At Negrine we had excellent quarters in the quondam military caserne, untenanted except by occasional travellers like ourselves, since the French vacated the town after their six years' occupation. I visited the oasis here, hoping to find some rare birds, but was disappointed, and as the neighbouring mountains were overrun with camels and flocks,

and therefore unlikely ground for mouflon, I determined to leave again the following day and return to Feriana and Kasrin by the most direct road possible. After considerable difficulty I succeeded in finding a native who thought he knew the way to Feriana across country, although he said we must in any case retrace our steps as far as Mides, and on the 18th of March we turned our backs on the desert and encamped that evening close to the frontier. *En route* I shot a few Sand-Grouse (*Pterocles arenarius*) and Stone-Plovers (*Ædicnemus crepitans*), also a couple of *Alaemon alaudipes*. *P. arenarius* was in large flocks on these plains, often over a hundred birds in a flock.

On the 19th of March we travelled in a N.E. direction, and, passing through some pretty country and plains covered with white genista, encamped about sunset near the Djebel Sgrega. During the day I saw few birds of any interest, and nothing new to us except *Asio accipitrinus*.

On the 20th of March we made a forced march of fourteen hours and arrived at Feriana late in the evening, having gone several miles out of our way, thanks to our guide's want of knowledge of the country! After a day's rest at Feriana we left again for Kasrin, and soon after starting, and within a mile or so of the town, I suddenly came on a pair of Great Bustards (*Otis tarda*) within 30 yards of me. Unfortunately I was not prepared for such royal game, and so lost a fine chance. With the exception of these and numberless Kestrels, which accompanied us the greater part of the way to Kasrin, perching on the telegraph-wires along the roadside, we saw little else in the way of birds.

The next few days I spent on Djebel Selloum after mouflon, and on the 26th of March I left again for Tebessa, where I arrived on the 28th after very slow travelling, the clay plains being almost impracticable owing to some heavy rains, the first we had had during our journey. On these plains I saw large flocks of *Otis tetrax*, evidently fresh arrivals, a few specimens of *Pterocles arenarius*, some Ravens, and some Egyptian Vultures. The following day I returned to Tunis just in time to catch the weekly Italian steamer for Sicily.

My best thanks are due to Mr. E. Cavendish Taylor for having kindly assisted me in identifying the birds, of which I add a list, with accompanying field-notes.

1. *TURDUS MUSICUS*.

Very common about Kasrin. Djebel Selloum simply swarmed with them about the beginning of March, and later on, when I visited this mountain a second time, towards the end of March, they were still plentiful, although not so numerous as before. No doubt the juniper and thuja berries, of which there was an abundance here, formed the attraction. At Feriana also, among the olive-groves, Thrushes were plentiful, feeding on the wild olives. South of Feriana I do not remember to have seen any.

2. *TURDUS MERULA*.

Like the preceding species, the Blackbird, although far less numerous, was common in the wooded districts we visited north of Feriana. South of this town I do not remember to have seen it.

3. *SAXICOLA MÆSTA*, Licht. (*S. philothamna*, Tristr.)

I found this rare and handsome Chat, both male and female, fairly abundant about the middle of March on the plains between Gafsa and Tamerza, but nowhere else, so far as I can recollect. I first saw it within two or three miles of Gafsa, and it became more abundant as I went further west towards Tamerza. It may, I think, be considered strictly a desert bird, and probably never strays very far north of the Sahara. Dr. Koenig, in his recent publication on the Tunisian avifauna (J. f. O. 1892, p. 282), mentions having met with it near Gabes, which lies in about the same degree of latitude as the country where I found it.

I generally found this species in pairs, the male at no great distance from the female, and perching on the tops of low bushes and shrubs. It is by no means a shy bird, and will often allow one to approach within a few yards before taking flight. The male has a most melodious note, and I often listened with pleasure to its short song. The speci-

mens obtained had none of them assumed their full breeding-plumage.

4. *SAXICOLA DESERTI*.

This Chat I also only found in the semi-desert country lying between Gafsa and Tamerza, where it seemed to be fairly abundant about the middle of March. I was somewhat surprised not to have met with it further north, but probably it was too early in the year for it to be found far from the desert. Dr. Koenig (J. f. O. 1892, p. 276) mentions having found it in the early part of May near El Djem, which is a good deal further north. The specimens I obtained were all males, but I generally saw this species in pairs. It is not particularly shy or difficult to approach. I do not remember having heard its note.

5. *SAXICOLA STAPAZINA*.

The only specimen of this species that I brought home with me had the broad black throat-band. I found this Chat in the same country as the two preceding species, although not so abundant as either of them. So far as I can recollect, the few specimens I shot were all males. I am informed on good authority that this species is common in the neighbourhood of Tunis in spring and summer, and that it breeds there.

6. *SAXICOLA LEUCURA*.

This was about the commonest, or rather I should say the most ubiquitous, Chat that I met with during my journey, from beginning to end, every mountain-gorge or rocky ravine being a pretty sure find for at least a pair. It was perhaps rather more common towards the north near Tebessa and Kasrin, but I also found it on the arid mountains further south near Gafsa, and should say it has a fairly wide range throughout the Regency. It is essentially a mountain- or rock-loving bird, and is generally to be met with singly, perched conspicuously on the top of a rock or stone in some inaccessible spot. I saw it also, however, in pairs. It is a shy bird and not easy to approach, but I obtained a good many specimens, both male and female.

7. *RUTICILLA PHÆNICURUS*.

I found the Common Redstart plentiful in the vicinity of Kasrin, and I believe I also saw it in the oasis at Gafsa.

8. *RUTICILLA TITYS*.

The Black Redstart I also found at Kasrin.

9. *RUTICILLA MOUSSIERI*.

This pretty little bird I met with constantly throughout my journey, both males and females, and particularly in the neighbourhood of Kasrin and Feriana. I also found it further south, among the hills to the west of Gafsa, and as I have on previous occasions observed it near Tunis and in the extreme north near Bizerta, I think we may look upon it as being generally distributed throughout the Regency. It is a timid little bird and does its best to avoid being seen, although its bright plumage renders it very conspicuous. I found it both singly and in pairs; this was throughout the month of March. I am told it breeds in the neighbourhood of Tunis.

10. *SYLVIA ATRICAPILLA*.

I only got one specimen of the Common Blackcap, a female, in the Gafsa oasis, but it is doubtless common in many parts of the Regency.

11. *ARGYA FULVA*.

The Algerian Bush-Babbler I met with only twice during my journey: once on the 6th March, about fifteen miles north of Gafsa, when I saw several small lots, and secured five specimens, and a second time, just a week later, in the neighbourhood of Tamerza, when I got one other bird. Although fairly common in some parts of the south of the Regency, I should consider the range of this species as limited. M. Blanc, the French naturalist at Tunis, tells me he has had two specimens which were shot in the neighbourhood of Tunis, but I do not think it often strays so far north. The first time I came across *A. fulva* I was stalking some Magpies (*Pica mauritanica*) in the middle of a patch of cultivated land dotted over with thorn-bushes,

and did not at once recognize the birds as they flew out of a bush. Their flight is slow, straight, and rather feeble. They are generally to be found in small parties of from four to six among clumps of bushes, and frequenting the small patches of cultivated land to be found thinly scattered over the southern plains, where they doubtless find a richer diet than on the more arid wastes. They are wary birds, but owing to their restlessness and loquacity cannot easily escape notice.

Mr. Dresser's work ('Birds of Europe'), if I remember right, contains an excellent description, given by Canon Tristram, of the peculiar habit this bird has of creeping up a bush and down again the other side, preparatory to stealing off quietly to the next bush, where the same tactics are repeated. Of the breeding of this species I was not able to ascertain anything of a positive nature. The plumages of the male and female seem to be the same.

12. MOTACILLA ALBA.

The White Wagtail I found, both male and female, plentiful near Kasrin and Feriana.

13. LANIUS DEALBATUS.

This was the only Shrike I met with during my journey, and although some of the specimens I obtained differed considerably from the others in the shade of grey on the head, back, and rump, I have looked upon this as being due to difference in age, and not sufficient to constitute even a variety.

I found this species almost everywhere throughout my journey where there were plains and bushes, and it evidently has a wide range in the south of the Regency, taking the place of *L. algeriensis* in the north.

L. dealbatus is generally to be found singly, perched conspicuously on top of a bare branch or bush. It is a most wary bird and difficult to approach, although when disturbed it rarely flies far, and can easily be seen and followed up. Dr. Koenig found this species breeding in numbers towards the end of April near El Djem, and gives a very full

description (J. f. O. 1892, p. 379) of its nest and eggs, which seem to be scarcely distinguishable from those of *L. algeriensis*.

14. *HIRUNDO RUSTICA*.

I saw the first Swallows of the season on the 28th of February at Kasrin, and met with them constantly throughout my journey.

15. *CHELIDON URBICA*.

The House Martin I also met with constantly throughout my journey.

16. *CARDUELIS ELEGANS*.

The Goldfinch is common in the north of the Regency, and I have seen it in large flocks close to Tunis. I do not, however, remember to have met with it during my late journey, except at Tebessa.

17. *LIGURINUS AURANTIIVENTRIS*.

I found Greenfinches on two occasions during my journey, and quite in the south of the Regency, viz. at Oglet-Alima and at Refou, where they were in small flocks of from six to a dozen birds, frequenting bushes in the vicinity of water. In habits and in their note they seemed to resemble our European bird.

My specimens are of the bright-coloured form, and are, no doubt, to be referred to Dr. Cabanis's *aurantiiventris*.

They differ from the ordinary European type chiefly in the colouring of the plumage, which is brighter and more uniform throughout the body generally, with a very marked absence, on the upper parts, of the *brown* tinge noticeable in *L. chloris*. Between the females of the two forms there is also a considerable difference in colouring.

In size perhaps *L. aurantiiventris* may be a trifle smaller than *L. chloris*, but I am not yet prepared to speak as to this, and the only other difference I have at present noticed is in the bill, which in the southern form seems to be rather larger and straighter than in the common type.

Besides the specimens I obtained myself last March, which would be in breeding-plumage, or nearly so, I may mention

having received from Tunis specimens freshly killed this autumn, and I do not find the plumage of the latter different from that of the birds I got myself in the spring, the *brown* shade being always entirely absent.

18. SERINUS HORTULANUS.

This species I met with occasionally, and obtained specimens at Tebessa and Gafsa.

19. ERYTHROSPIZA GITHAGINEA.

This pretty little Finch seems to be fairly abundant and generally distributed throughout the south of the Regency, and I constantly met with it after leaving Feriana. I found it in pairs and in small flocks on sandy plains and rocky ground where there was some vegetation. It is an unsuspicious little bird, and allows one to approach within a few yards. The male bird is most exquisitely coloured, but unfortunately the delicate rose tints fade a good deal after death.

20. FRINGILLA CŒLEBS.

I include this species merely on account of my having seen it in cages, and having been assured that it is common in winter in some parts of the Regency. Of its occurrence as a winter visitor there would seem to be no doubt whatever; the question is whether it ever breeds on the African continent. Dr. Koenig is opposed to the idea, although he found it near Djebel Battaria, to the south of Tunis, as late as the middle of April. It is possible, however, I think, that it may nest in some of the higher woods of the Tell Mountains, as happens in Sicily with the same species, which in spring retires for the purpose of breeding to the cool oak-woods of the lofty inland mountains, and remains there till the approach of winter.

21. FRINGILLA SPODIOGENA.

The Algerian Chaffinch, male and female, I found most plentiful at Tebessa and at Gafsa, in both of which places fruit-trees abound, and where it seemed quite the commonest bird. This species is no doubt generally spread throughout the Regency, although probably only to be met with in the

neighbourhood of orchards and olive-groves, and not in the open country or far from villages. In its note and habits, as also in its nesting, it resembles our European bird. I was somewhat surprised to find it so far south as Gafsa.

22. *LINOTA CANNABINA*.

The Common Linnet I saw in flocks at Kasrin, but do not recollect having seen it elsewhere.

23. *PASSER SALICICOLA*.

This Sparrow I found common at Tebessa, Kasrin, Feriana, and Gafsa, and I do not remember to have noticed *P. italica*.

24. *PETRONIA STULTA*.

I found this species at Kasrin feeding in the fields, together with *Melanocorypha calandra*; in fact I shot one out of a flock of these Larks.

25. *EMBERIZA MILIARIA*.

Seems pretty generally distributed throughout the Regency, and I met with it on several occasions, both in the north and south, although nowhere in large numbers.

26. *EMBERIZA SAHARÆ*.

This sober-coloured but rather rare little bird I met with only once during my journey, viz., at Gafsa, where it seemed fairly abundant, although, owing to the difficulty of being able to shoot in the middle of a town, I only secured two specimens, a male and female.

It is eminently a Saharan species, although not frequenting the actual desert or open country, but the neighbourhood of human habitations and buildings, from which it never strays far; indeed I do not think I even found it in the oasis gardens. I saw it singly, as a rule, but sometimes with others of its species, and with Sparrows and other birds on a rubbish-heap or dunghill. It is a sprightly, familiar little bird, and by no means shy, partaking somewhat of the character of a town sparrow, which bird it resembles in many ways. I do not remember having heard its note.

27. *ALÆMON ALAUDIPES* (Sharpe, Cat. B. xiii. p. 518.)

This is eminently a desert bird, and I never met with it

far north of the desert border. I found it near Gafsa, Mides, and Negrine, but obtained only a couple of specimens. I never saw it except singly. When flying it is rather a conspicuous bird from the distinct marking of its wings, the more apparent as it flies low and close to the ground.

28. ALAUDA CRISTATA.

This was quite the commonest Lark in the north part of the country I visited, further south its place being taken by *A. macrorhyncha*. I found *A. cristata* very abundant at Kasrin the end of February and early part of March, and always in pairs. In its general habits and in its song it resembles our European bird to a great extent, although I do not remember to have noticed it soaring very high, and I sometimes saw it perching and singing on a bush or low shrub.

29. ALAUDA MACRORHYNCHA.

Tristram's Lark I consider as a very good species, for although individuals of this bird may differ to a certain extent among themselves, there is always a very wide gap between them and the preceding species.

As I have just said, *A. macrorhyncha* seems to replace *A. cristata* in the south of the Regency, being quite the commonest Lark in the southern districts I visited. I met with it constantly after nearing Gafsa, and particularly on and in the neighbourhood of mountains, which it seems to prefer to the plains. I always found it in pairs—this was at the beginning and middle of March—and I obtained several specimens, both male and female.

30. AMMOMANES DESERTI.

I found this Lark also fairly widely distributed in Southern Tunisia, although nowhere very abundant, and always either on or in the immediate vicinity of mountains, like the preceding species. I met with it first near Gafsa, and subsequently throughout my journey till within about 30 miles of Feriana. Its delicate plumage accords admirably in colour with the sandy soil and arid rocks of the desert mountains.

31. *CALANDRELLA BRACHYDACTYLA.*

This little Lark I found abundant between Gafsa and Tamerza, about the middle of March, in large flocks on the scrub-plains. I did not notice it further north.

32. *CALANDRELLA MINOR.*

The only specimen I obtained of this Lark was one that I picked up dead on the road from Kasrin to Feriana. It had probably flown against the telegraph-wires running alongside of this road.

33. *MELANOCORYPHA CALANDRA.*

This Lark was plentiful about Kasrin in large flocks, feeding on the cultivated land, and I secured several specimens, male and female. I did not find it south of Feriana.

34 & 35. *STURNUS VULGARIS* and *STURNUS UNICOLOR.*

I saw Starlings on two occasions only, once at the beginning of March near Kasrin, and once at the end of March near Tebessa, but not having obtained any specimens, I was unable to determine the species; at the time, however, I thought that those I saw near Kasrin were *S. vulgaris*, and those I saw near Tebessa *S. unicolor*. According to Dr. Koenig the latter breeds abundantly in the neighbourhood of Monastir, while the former is probably only a winter visitor in the Regency.

36. *PICA MAURITANICA.*

I only saw the Algerian Magpie once or twice during my journey, on the plains between Feriana and Gafsa, where there were some patches of cultivated land and thorn-bushes, and I failed to obtain a specimen. It is evidently not what one would call a common bird in the south, and being as shy and wary as its European cousin, it is difficult to obtain. I believe, however, it is commoner in the north of the Regency, as I have myself on more than one occasion seen it from the railway-line between Tunis and Bona, and I have often seen dead Magpies for sale in the Tunis game-market! In its general habits and its nesting it seems to resemble our European bird; in size, however, it is rather smaller, and of course has the distinctive blue patch behind the eye.

37. CORVUS TINGITANUS.

I saw Ravens, presumably of this species, constantly on the plains between Tebessa and Kasrin, and at Kasrin itself, among the ruins and rocky hills, but did not shoot any. They were in pairs and fours. I also saw what I thought was this species near Feriana, but instead of being in pairs the birds were in small flocks.

38. CYPSELUS MELBA.

I met with this Swift only on one occasion, among the mountains to the N.W. of Gafsa, when I saw a pair very distinctly. *C. apus* I may have met with, but do not recollect having done so.

39. MEROPS APIASTER.

I heard and saw the common Bee-cater on the 7th March at Gafsa, but without obtaining a specimen. This was the only occasion on which I met with this species during my journey.

40. UPUPA EPOPS.

I shot a Hoopoe on the 5th March, between Feriana and Sidi-Aich, and met with them again on my return journey, a fortnight later, on the plains between Mides and Feriana, when they were in small flocks, evidently going north.

41. CUCULUS CANORUS.

I only heard the Cuckoo once, and that was in the woods near Tebessa, on the 28th March.

42. ASIO ACCIPITRINUS.

I met with this Owl once only also, on a plain to the south of Feriana, when I saw a pair and secured one.

43. ATHENE GLAUX.

This little Owl, the "Booma" of the Arabs, is common throughout the Regency wherever there are rocks and suitable hiding-places. I found it constantly during my journey. It also seems to have a partiality for olive-trees, no doubt on account of the holes with which the trunks of the old trees abound. It is very fearless, allowing one to approach within

a few yards. I generally found it in pairs, but sometimes singly.

44. NEOPHRON PERCNOPTERUS.

I saw the Egyptian Vulture on several occasions during my journey, both in the north and south, although without obtaining any specimens. I have shot this species near Tunis, where it is common on the Djebel Ressas, together with *Gyps fulvus*, which I have also shot there. The latter species was in a large colony, breeding. I do not remember having seen *G. fulvus* during my late journey, and expect it is not often to be found among the southern mountains, at any rate during the breeding-season.

45. AQUILA CHRYSÆTUS.

On Djebel Selloum, near Kasrin, I wounded an Eagle, though without securing it, which I had no doubt was of the present species. I believe I saw it on other occasions further south, although too far off to be able to identify it. I have shot the Golden Eagle near Tunis.

46. FALCO TINNUNCULUS.

The Common Kestrel was most abundant at Kasrin and all along the road from that place to Feriana. I also saw it further south, among the mountains near Tamerza and Negrine.

47. FALCO CENCHRIS.

The Lesser Kestrel I also found plentiful in the neighbourhood of Kasrin.

48. COLUMBA LIVIA.

I found the Rock Dove ubiquitous throughout my journey from beginning to end.

49. TURTUR SENEGALENSIS.

I saw this pretty little Dove only in the Gafsa oasis, where it was fairly abundant, but failed to secure a specimen. Somewhat to my surprise, I found none of these Doves in any other oasis I visited. I have often seen them for sale in the Tunis market.

50. *PTEROCLES ARENARIUS*.

I first met with this Sand-Grouse on the 9th March, on the arid plains to the west of Gafsa, and subsequently in many other places, notably near Oglet-Alima, Mides, Negrine, and Feriana. They seemed to be most abundant on the vast plains between Mides and Negrine, where they were often in large flocks of over one hundred birds. As a rule, however, I found them in smaller flocks of from ten to twenty birds, and near Feriana in threes and fours only. They seem to have a liking for stony spots, and when crouching close to the ground it is difficult to distinguish them from stones. I found males and females equally abundant, and secured specimens of both. They are, however, very shy birds and difficult to approach, and when disturbed fly a considerable distance, often out of sight, before settling down again. They are very strong on the wing, with their feathers lying close together, and heavy shot is required to bring them down. The rattling noise they make on taking flight is very peculiar, and unlike that of any other bird. While on the wing they utter a loud note, which can be heard at a considerable distance. I am told this species is common in spring and summer in the north of the Regency, and that it breeds in the neighbourhood of Tunis.

51. *PTEROCLES CORONATUS*.

The finding of this species so far west is no doubt an interesting fact, as even in Egypt it is rare, and its habitat proper has always been looked upon as being considerably further east, viz., in Asia. Loche includes it in his list of Algerian birds ('Cat. des Mammifères et des Oiseaux observés en Algérie'), and a German gentleman living near Tunis, Herr Spatz, is said to have found it in the south of the Regency, but I do not know of its having been met with by anyone else so far west*.

During my journey I met with it only at one place, viz., at Oglet-Alima, between Gafsa and Tamerza, where it was

* [It is also included by Canon Tristram in his list of the birds of the Sahara—'The Great Sahara,' p. 400.—Ed.]

plentiful, coming in flocks of from ten to fifty birds to drink at the water-holes made by the Arabs in the dry river-beds. I saw it first on the 12th March, when the flight commenced about 7 A.M., and lasted till nearly 10 o'clock, after which hour the birds disappeared. During the remainder of the day I only met with an occasional straggler on the plains near Oglet-Alima, and think the bulk of the birds must have gone further south, towards the desert, nor did they return to drink here in the evening. The following morning, however, they were at the water-holes again in full force. They are very strong on the wing, and fly at a considerable height, uttering a loud clucking note all the time, something like that of the Common Fowl. So loud is the note, and so high do the birds fly, that they can often be distinctly heard when scarcely visible to the naked eye. Though very shy and difficult to approach, they do not leave the neighbourhood when disturbed, but return to the water-holes, or their immediate vicinity, till the hour arrives for their departure. As in *P. arenarius*, their feathers lie very closely together, necessitating heavy shot to bring them down. I secured fourteen specimens in all, between males and females. The flesh of this Sand-Grouse is excellent eating, and not at all dry or tasteless, the breast having dark and light meat, the same as Blackgame.

I was unable to ascertain whether this species breeds in the district in which I found it, but think it not unlikely.

52. CACCABIS PETROSA.

The Barbary Partridge I found constantly throughout my journey wherever there were bushes, and within reach of water. They were beginning to pair at the end of February, and in March I never found them except in pairs.

53. COTURNIX COMMUNIS.

The Common Quail I also found generally distributed throughout the country I visited.

54. PHÆNICOPTERUS ROSEUS.

I must include this species, having brought home skins with me, which I got at Tunis. I found the Flamingo as

plentiful as ever on the Bahira, or Tunis Lake, about the middle of February. On my return from the south at the end of March they had all departed.

55. OTIS TARDA.

This magnificent bird I never actually obtained, although with good luck I ought to have done so, particularly on one occasion, near Feriana, when I suddenly came upon a pair within thirty yards of me, and had ample time to admire and identify the species as they quietly stalked away from me. Unfortunately I was unprepared for them, and so lost my chance. On another occasion, further south, between Gafsa and Tamerza, I met with them; but I believe this species is not common in Tunisia, and near Tunis itself I understand it is unknown. I was rather surprised not to have met with *O. houbara*.

56. OTIS TETRAX.

The Lesser Bustard, or "Poule de Carthage" of the French, is abundant in some parts of the Regency, particularly in spring. I found it in pairs and singly on the plains between Tebessa and Kasrin at the end of February, and on my return a month later, in the same districts, it was in large flocks, being then no doubt on passage. I did not meet with it near the desert. In the north of the Regency it is common, and I have found it in the middle of winter near Bizerta.

57. ŒDIGNEMUS CREPITANS.

I met with this species only after the middle of March on my way from Negrine to Feriana, when it was in pairs on the sandy plains.

58. EUDROMIAS MORINELLUS.

I found this species on the plains between Gafsa and Tamerza in small flocks.

59. VANELLUS CRISTATUS.

Common about Tebessa and Kasrin, but I did not meet with it further south, no doubt owing to the absence of water and marshy ground.

60. GALLINAGO CŒLESTIS.

The Common Snipe was plentiful in the marshes near Tebessa.

61. GALLINAGO GALLINULA.

The Jack Snipe I also shot near Tebessa.

62. TOTANUS OCHROPUS.

I shot a Green Sandpiper in the mountain-gorge at Refou, near Tamerza.

VI.—On the Interbreeding of *Rhipidura fuliginosa* with
R. flabellifera. By J. C. McLEAN.

SCATTERED through the volumes of the New Zealand Institute are several references to the occurrence of the Black Fantail in the North Island of the colony, and in this journal (*Ibis*, 1889, p. 297) Mr. T. W. Kirk has recorded the nesting of a pair of this species in the Manawatu district. And now I have the pleasure, not only of recording its occurrence in this island, but also of its interbreeding, in the Poverty Bay district, with a specimen of *Rhipidura flabellifera*.

In the first place let me quote a note written on April 17, 1892:—"While leading my horse down a steep hill this morning, I noticed a dark Fantail fly past towards a small clump of scrub, which it entered. Proceeding down the spur I came to the clump, where the bird was found flitting about in the lower branches. I saw at once that it was *Rhipidura fuliginosa*; and, while observing it, the bird settled within three feet of me, when I saw the white ear-spots. These, however, were not very conspicuous."

I did not observe the bird for any length of time, but went to obtain a gun and so complete my identification. In twenty minutes we were back, but a search for fully an hour in the vicinity failed to discover the bird, and, as the place was very rough with fern and manuka, I reluctantly turned towards home.

After a lapse of seventeen months I again saw, on September 7, 1893, what was undoubtedly the same bird. I was

on the top of a hill about half a mile from where the bird was seen in 1892, and saw the bird fly-catching in a rangiora bush, which, being in blossom, no doubt had attracted a considerable number of insects. On approaching the bird it flew away down the steep hill-face and disappeared in the bush below.

The following day I went in quest, and after seeing, as I thought, every Fantail in about twenty acres of steep hill-side, I was just giving up the hunt when I came across the bird in a part of the hill that I had previously searched. It was playing about with a Pied Fantail, when suddenly it flew up the bush pursued by the pied bird. I followed and found the Pied Fantail in a tree in which was a Fantail's nest. Not seeing the black bird about I sat down to observe whether it would return, and meanwhile watched the Fantail catching insects with wonderful evolutions, always returning to its perch, sometimes to sing its sweet little song.

Suddenly I thought the tail showing over the nest was not that of *R. flabellifera*. I shook the tree, but the bird remained. I climbed up and there sat *R. fuliginosa* on the nest, exposing, when it flew off, two eggs. I experienced a feeling I cannot describe; I had come out simply to obtain the bird, and had found it paired with a mate of a different species, together with its nest and eggs! It was with much regret that I shot the pair of birds and took the nest and eggs.

Having nothing better than a match-box and some dry grass, I packed the two eggs (without blowing) in them, but on opening the box I found that one of the eggs was unfortunately badly crushed. The eggs were both incubated—perhaps for five or six days.

On skinning the two birds I found that the pied bird was a male, while the black one was a female. *R. fuliginosa* was in perfect plumage, while *R. flabellifera* was rather worn.

I have seen many Fantails' nests and cannot find any difference between those of *R. flabellifera* and *R. fuliginosa*. In the present case the locality was not perhaps the usual one selected by the pied species in which to rear its young (it

usually breeds near water), but still there were other pairs of *R. flabellifera* breeding in the vicinity, and I saw one nest. The present nest was placed about twelve feet from the ground in a mahoe tree, far away from water, and was well sheltered by the leaves of the tree.

I have never seen eggs of *Rhipidura fuliginosa* from the South Island, but the two eggs taken are, I think, richer in colour than those of *R. flabellifera*, the spots being of a purplish tint, while in eggs of the pied bird they are brownish. The shell is glossy, but this may be due to incubation.

Mr. Potts writes of the interbreeding of the two species in the South Island, and it is satisfactory to know that when *Rhipidura fuliginosa* straggles to this island there is no need for it to remain single.

If, as I think, this bird has been resident here at least more than twelve months, it is probable that it interbred last season; but I have never noticed anything that could be taken for a cross between the two species.

Waikohu Station, Te Karaka, Gisborne,
New Zealand.

VII.—On the *Chrysotis canifrons* of Lawrence.

By ERNST HARTERT.

AFTER having read Mr. Lawrence's article "on the validity of *Chrysotis canifrons*" in 'The Ibis' (1893, p. 566), I feel rather uneasy at having disturbed the Nestor of ornithologists by uniting his species with *C. ochroptera* (Gm.).

There is no doubt that I made a mistake in not fully giving all my reasons for the course I took, and as Mr. Lawrence accuses me of having "strangely ignored all further comparisons" of the two species, except that of the forehead, I must now go further into the question.

On going to Aruba I took a copy of Mr. Lawrence's description of *Chrysotis canifrons* with me, and it was one of my special objects to procure examples of this typeless species. I made many inquiries, and was specially on the look-out

for Parrots of the genus *Chrysotis*. When I first shot one I labelled it "*C. canifrons*, Lawr.," as the description seemed fairly to agree with the characters of my bird. It was not until I studied the species in Europe that I became *quite sure* that my Aruban birds could not be distinguished from *C. ochroptera* (Gm.).

As my specimens have "a faint ashy hue" on the forehead, lores, and chin, and one seen in captivity on Aruba had these parts *much* more grey; moreover, as I have specimens of the closely allied species (*C. rothschildi*) from Bonaire with some ashy feathers on the forehead and others (no doubt of the same species) without this colour; again, as from my investigations on Aruba I cannot believe that this small, bare, and rocky island is the home of a second species of *Chrysotis*; and finally, as I could not make out that Mr. Lawrence's description differs in any important particulars from my birds, I ventured to refer his name to *C. ochroptera* (Gm.).

I may now be allowed to criticize the points in Mr. Lawrence's description which he considers to show differences from *C. ochroptera*.

1. "In *C. canifrons* the chin and upper part of the throat are greyish ash, the sides of the head dull yellow; these parts in *C. ochroptera* are 'rich yellow with rosy orange bases.'" I have said before that specimens of *C. ochroptera* and of *C. rothschildi* occur with ashy feathers on these parts, and all have there a faint ashy hue, so that, in my opinion, this character has not much significance. The rosy-orange bases are not mentioned in any description of *C. ochroptera* now before me, and are also ignored in the 'Catalogue of Birds,' although they are always present in *C. ochroptera*, as well as in the Mexican and several other yellow-headed species of the genus. They are to be seen only when the feathers are lifted up, which is not always done when birds are described, and to which live birds often object, so that it is not improbable that Mr. Lawrence, like so many others, did not notice this character in his *C. canifrons*.

2. The bend of the wing in *C. canifrons* is described as "clear yellow, marked with scarlet next the body," while of that of *C. ochroptera* I say "yellow, with a few scanty red feathers sometimes to be seen next the body." I think the difference between these two descriptions is not very great, and that they might well apply to the same species. I said of my three specimens from Aruba (for I only described these in my article) "with a few scanty red feathers sometimes to be seen next the body," but I have a specimen alive now, and I have seen others, which have more red there, although never nearly so much as in *C. rothschildi*. I am sure Mr. Lawrence would not have described the bend of the wing of his bird as "yellow, marked with red next the body," if the whole of the cubital edge and the shoulder-patch had been bright scarlet mixed with some yellow, as is the case in *C. rothschildi*.

3. Mr. Lawrence says, "The primaries in *C. canifrons* are blue, those of *C. ochroptera* black." I regret to be obliged to say that this statement is incorrect. The primaries in *C. ochroptera* are—in spite of statements to the contrary—deep blue, just like those of *C. rothschildi* and the supposed *C. canifrons*. Mr. Lawrence says I did not mention the colour of the primaries; but they are *black* in my figure of *C. ochroptera* in 'The Ibis,' and Salvadori states them to be *black* in the 'Catalogue of Birds.' I did not mention their colour because I described only those parts of my wild-shot Aruban birds which I thought ought to be noticed, since most, if not all, previous descriptions seemed to have been derived from caged birds. As to my figure in 'The Ibis,' the primaries of both species were *blue* in Keulemans's coloured pattern, and they are *blue* in all my separate copies, and in a number of other copies which I have seen. Mr. Lawrence must either unluckily have got a wrongly coloured copy (which is not probable) or must have looked at the figure by artificial light, when the primaries do look rather black.

4. "The thighs of *C. canifrons* are grey, in *C. ochroptera* they are yellow." I have stated (Ibis, 1893, p. 302) that in young as well as in caged birds the yellow colour is more

restricted, and that the thighs are paler. I believe that all caged birds of this species have the yellow colours less bright than wild-shot examples, and that the thighs are more of a dirty yellow, as is the case in one which I have alive now. There is not a great transition from dirty yellow to grey, and I think therefore that the two different statements as to the colour of the thighs are not of much importance.

After having said so much, I hope that Mr. Lawrence will pardon me if I cannot agree with him that he "has shown conclusively" that his *C. canifrons* is of specific value, and maintain that I had sufficient reasons for uniting *C. canifrons* with *C. ochroptera*.

I quite hold with Mr. Lawrence that there are points in which his supposed *C. canifrons* agrees rather with *C. rothschildi* from Bonaire than with *C. ochroptera*. But these two species are very nearly allied, and any description taken from one without comparison with the other, especially one taken from a living bird, must in many respects apply to both. Moreover, the alleged habitat, "Aruba"—or, since Mr. Lawrence seems now to doubt its correctness, the uncertainty of the locality whence it came—forbids me to refer *C. canifrons* with any certainty to *C. rothschildi*, that species being known only from Bonaire, whence live birds are not exported, while live birds are brought in multitudes from Northern Venezuela, where *C. ochroptera* abounds.

Lastly, as regards the measurements, those of Mr. Lawrence are only very little larger than mine, and Mr. Lawrence himself has stated that they are only "approximate." This is likely to be so when they are taken from a living bird; besides, according to my experience, the total length is always considerably greater when taken from a living bird or one "in the flesh" than from a bird-skin of the ordinary make.

VIII.—*Ornithology at Munich, Stuttgart, Darmstadt, Frankfort, and Cassel.* By THE EDITOR.

RETURNING from the Engadine in September last the Editor took the opportunity of visiting the museums of Munich, Stuttgart, Darmstadt, Frankfort, and Cassel, and thinks that a few remarks upon the collections of birds in each of these cities may be of interest.

At Munich the "Zoologisch-Zootomische Sammlung" of the Academy of Sciences is now under the Conservatorship of Dr. R. Hertwig. It contains a large series of mounted birds, some 13,000 in number, but no collection of skins. The collection was originally based mainly on the old Eichstadt collection, bequeathed by the Duke of Leuchtenberg many years ago, and the specimens in it are not all in good preservation. It is chiefly interesting to ornithologists as containing the types of Spix's "*Aves Brasilienses*," obtained during the celebrated journey of Spix and Martius to Brazil in 1817-20. It is very desirable that an accurate examination should be made of these types, as some of Spix's species are rather uncertain. Some of the types, I believe, are no longer to be found in the series. There is no separate collection of Bavarian birds at Munich, and the only authority I know of on the Birds of Bavaria specially is Jäckel's '*Systematische Uebersicht der Vögel Bayerns*' (cf. *Ibis*, 1892, p. 335). There seems to be no ornithologist now at Munich. On the other hand, the palæontological collection of the Academy (under the care of Prof. Dr. Ritter v. Zittel) is very fine, embracing a splendid series of remains from the Solenhofen Deposits. It is curious, however, that of the only two known examples of *Archæopteryx lithographicus*, the greatest rarity of the Solenhofen strata, one is at Berlin and the other in London.

At Stuttgart Dr. v. Fraas is the Director of the "Naturalien-Cabinet," which I had the pleasure of inspecting in the company of one of his assistants, Dr. Vosseler, Dr. Klunzinger, Professor of Zoology at the Polytechnicum, and the Preparator, Herr Kerz. The series of birds in the gallery,

numbering some 12,000 specimens, is very well-arranged, and all the specimens are excellently mounted. There are many rarities among them, the groups best represented being, perhaps, the Paradise-birds and the Pheasants. Among the former are beautiful specimens of *Drepanornis bruijni*, *Paradisornis rudolphi*, *Parotia lawesi*, and *Lophorhina minor*. Among the latter, if I understand rightly, are all the specimens of Mr. Elliot's collection upon which he based his 'Monograph of the Phasianidæ.' Amongst them I noticed fine specimens of *Phasianus principalis*, *P. vlengali*, *P. shawi*, *P. insignis*, *P. semitorquatus*, *P. strauchi*, and male, female, and young of *Lophophorus lhuysi*. Other noticeable specimens in the general collection are examples of *Otis dybowskii*, *O. heuglini*, *Gallinago stricklandi* (from Valdivia), *Nycticorax cucullatus* (from Gaboon), *Aptenodytes imperator*, *Nyctiornis breweri*, *Geopsittacus occidentalis*, and *Corythaix leucolophus*. There is also an example of *Alca impennis*, purchased of Möschler many years ago.

In the same building on the upper story is a complete and well-mounted series of the Birds of Würtemberg, belonging to the Verein für vaterländische Naturkunde. Among the rarities here are examples of *Puffinus kuhli*, obtained near Stuttgart in October 1891, of *Phalacrocorax pygmaeus* from Upper Suabia, obtained in 1857, and of *Bernicla ruficollis*, from near Lemberg (January 1844). *

Darmstadt is well known to ornithologists from the fame of Dr. J. J. Kaup, who was for many years Custos of the Grand-Ducal Naturalien-Sammlung, which is lodged in part of the Palace. The present occupant of this office is Dr. J. v. Koch, and the Preparator is Herr Kusthardt. The mounted collection of birds consists of some 6000 specimens, and there are also some 6000 skins. They have all been examined and determined by the late Dr. Brüggemann (who died in London in 1878) and contain many of his types—*Pitta kochi*, *Ptilopus fischeri*, *Polyplectrus schleiermacheri*, and *Ibis macrorhyncha* (N.E. Africa, Harmer). The series

* A list of the birds of Würtemberg was published by Dr. Krauss in 'Das Königreich Württembergs,' Fauna, p. 487 (1880).

of specimens obtained by Fischer and Rosenberg in the Sunda Islands and Moluccas form a valuable portion of this collection.

As regards Frankfort, the importance of the Senckenbergian Museum is known to every naturalist. It contains all the collections of the great East-African explorer Rüppell. The present Conservator is Herr Koch. The birds are all mounted, and there are about 10,000 specimens. I was chiefly engaged here in examining the antelopes, but noticed among the birds several rarities, such as *Baleniceps rex* (White Nile, *Heuglin*), *Haliaëtus vociferoides* (from Madagascar), and *Otis nuba* (Nubia). There is a single specimen of *Alca impennis*. But Mr. Hartert has recently published a complete catalogue of the Senckenbergian birds*, and it is not necessary, therefore, for me to say more about them, except that they are correctly named and in excellent order. It is, however, in my opinion highly questionable whether all these valuable types should be kept as mounted specimens. The best plan would probably be to reduce them into skins and to place them in cabinets, in which state they would certainly suffer much less deterioration.

At Cassel, where I had the pleasure of attending the meeting of the Allgemeine Deutsche Ornithologische Gesellschaft, there is a collection of mounted birds in the Naturalien-Museum in the Friedrich's-Platz under the care of Dr. Lenz. It contains about 2300 specimens. It is chiefly remarkable for having a nearly complete set of Cuban birds, presented by the well-known naturalist Dr. Gundlach of Havana, who is a native of Cassel. Amongst them I noticed a good specimen of the rare *Cymindis wilsoni*. There is said to have formerly been a specimen of *Alca impennis* in this museum. Besides the general collection there is a separate series of the birds that breed in the Province, about 130 in all.

* Katalog der Vogelsammlung im Museum der Senckenbergischen Naturforschenden Gesellschaft in Frankfurt-am-Main. Von Ernst Hartert. Frankfurt-a.-Main, 1891.

IX.—Description of a new Species of Grebe from Central Peru.

By HANS, Graf von BERLEPSCH, and JEAN STOLZMANN.

(Plate IV.)

† *PODICEPS** TACZANOWSKII, sp. n. (Plate IV.)

† *Podiceps caliparæus*, Tacz. Orn. du Pérou, iii. p. 493, partim.

D. corpore suprà schistaceo-nigricante, occipite colloque postico medio fere nigris, pileo anteriore cum regione oculari obscure cinereis, plumis auricularibus elongatis et lanceolatis, nitide cinereo-brunneis; corpore subtùs albo sericeo, lateribus schistaceo variegatis; alis dorso concoloribus, exceptis secundariis albis in vexillo externo plus minusve schistaceo variegatis; rostro violaceo-nigro, apice albescente; pedibus brunneis, in speciminibus nonnullis fulvo-brunneo variegatis.

Obs. Species *D. caliparæo* (Less.), ut videtur, maxime affinis, sed rostro fere duplo longiore, narium aperturis multo longioribus, maxilla basi magis carinata, pedibus digitisque multo longioribus et crassioribus, plumis auricularibus longioribus cinereo-brunneis nec stramineo-aureis, pileo anteriore obscurius cinereo nec pallide griseo-brunneo, gula genisque inferioribus pure albis nec griseo-brunneis, rostro violaceo-nigro, apice albescente (nec unicolore nigro), primo visu distinguenda.

* With reference to the use of this generic name for the Grebes, Mr. Ridgway (Proc. U.S. Nat. Mus. 1882, p. 42) has written as follows:—“Linnaeus united the Grebes and the Loons or Divers in the same genus *Colymbus*, but in 1760 Brisson had already separated the Loons from the Grebes, retaining the name *Colymbus* for the latter. In 1777 Scopoli followed his example. Ten years later Latham applied the name *Podiceps* to the same groups, this consequently being a mere synonym of *Colymbus* as restricted by Brisson.” Mr. Ridgway and the authors of the ‘American Check-list’ therefore use *Colymbus* for the Grebes, and *Urinator* of Cuvier for the Divers. Against this view I may state that both Brisson and Scopoli really intended but did not succeed in separating the Grebes from the Loons, as the generic appellations proposed by them for the Loons (viz. *Mergus* and *Uria*) were both preoccupied. Therefore things remained as they were when Linné made his genus *Colymbus* (to embrace Loons and Grebes) until Latham created *Podiceps* for the Grebes, this having been the first legal subdivision of the genus *Colymbus*, L.

Hab. in Peruviâ centrali altâ (in lacu Junin, altitudine 17,700 pedum).

Mus. comitum Branicki, Varsoviæ, et comitis Berlepsch.

	Long. tot.	Al. exp.	Al. long.	Culm.	Tars.
<i>P. taczanowskii</i> , ♂ ♂	370-380	546-570	129-122	32-33	44½-45 mm.
" ♀ ♀	360-364	520-554	124-115½	28¾-29	42½-44½ "
<i>P. calliparæus</i>			128	18¾	41 "

This fine new species we have named in memory of our ever-memorable friend the late Ladislas Taczanowski, who had confounded it with *P. calliparæus*, from which, however, it is quite distinct.

Of *P. taczanowskii* we have before us three males and three females collected by Mr. T. Kalinowski, a correspondent of the Branicki Museum, in the neighbourhood of Incapirca Jezioro, on Lake Junin, 17,700 feet above the sea-level, on the 24th and 27th May, 1890. Kalinowski notes the colour of the iris as "rouge clair," the legs as "olivâtre-plombé" on the inner and "d'un gris brunâtre" on the outer side. He has also sent two eggs of this species, which will be described in a future article.

Kalinowski's specimens have been compared with a fine adult of *P. calliparæus* (Less.) from Punta Arenas, Magelania, belonging to the Berlepsch Museum.

The chief difference between the new species and *P. calliparæus* is in the bill. This organ in *P. taczanowskii* is nearly twice as long and much broader in its basal half than that of *P. calliparæus*. The nasal openings in the former species are nearly three times longer, and are situated in a much longer and deeper groove, the culmen in this part of the bill being more prominent, while it is broader and more depressed in its middle portion. The coloration of the bill is also quite different, being of a plumbeous violet, paler beneath, with a whitish tip to both mandibles, while in *P. calliparæus* the bill seems to be always of a uniform black.

The legs and the toes are much longer and stouter and of a lighter coloration than in *P. calliparæus*, being also variegated with fulvous brown in some specimens, while they are of a uniform black in *P. calliparæus*.

As regards the coloration of the plumage there is also much difference observable between the two species. In *P. taczanowskii* the long linear plumes springing from the auricular region are much longer, but not so ample as in *P. callipareus*; they are of a silky cinereous brown instead of a golden straw-colour. The front part of the upper head, including the upper cheeks, is rather darker than in *P. callipareus*, being of a dark cinereous instead of a pale brownish grey. This colour on the occiput blends gradually into the black of the nuchal region, while in *P. callipareus* the brownish grey of the pileum and the deep black of the occiput are sharply separated. The black of the nuchal region in *P. taczanowskii* descends much farther down on the upper neck, nearly as far as the upper back, while in *P. callipareus* there is only a brownish cinereous stripe along the upper neck, the black being nearly restricted to the nuchal region. In *P. taczanowskii* the plumes of the black occiput are smooth, while in *P. callipareus* they are ruffled or somewhat re-curved.

In *P. taczanowskii* the cheeks and the throat are pure white, uniform with the remaining parts of the under surface of the body, while in *P. callipareus* the cheeks and the throat are pale brownish grey, uniform with the fore part of the upper head. The outer webs of the secondaries in *P. taczanowskii* are mostly white, being only more or less freckled with ashy grey, while in the other species they are nearly uniform greyish brown, and not very conspicuously freckled or variegated with white.

Before Kalinowski succeeded in getting his specimens, this interesting bird had been already obtained by Mr. C. Jelski, but its distinctness from *P. callipareus* was not recognized by Taczanowski. Stolzmann, having examined the specimens in the University Museum at Warsaw, states that three birds are contained in it which were collected at Lake Junin by Jelski and named *P. callipareus* by Taczanowski. Of these a female collected on Lake Junin, 16th August, 1872, belongs to our new species *P. taczanowskii*, agreeing perfectly with Kalinowski's specimens. The other two, nevertheless,

viz. an adult female and a young bird collected on Lake Junin, 16th August, 1872, are referable to true *P. calliparæus*, or perhaps to a new subspecies of it. From the adult bird from Punta Arenas, Magallania, the last-named female differs as follows :—

The coloration of the fore part of the upper head is much darker. The long linear silky plumes of the auricular region are grey, with but a slight yellowish lustre, while in the Magellan bird they are of a golden straw-yellow.

The black hood is as well developed and consists of ruffled plumes as in true *P. calliparæus*, but it is not so sharply separated from the greyish fore part of the pileum. As in *P. taczanowskii*, the black of the nuchal region descends along the upper part of the neck as far as the upper back, but becomes more brownish on the neck.

The throat, including the region under the eyes (cheeks), is of a pure white instead of being brownish grey. There is left only a very narrow line of brownish grey just below the eyes, and the dark coloration of the upper head and upper neck is sharply separated from the white of the cheeks and the sides of the neck. The bill has a whitish tip, being altogether black in the Magellan bird.

The young bird of this form differs from the adult in having the long silky auricular plumes, and in the greyish colour of the fore part of the head blending gradually into the black of the nuchal region. Both specimens, in the form of the bill, agree perfectly with true *P. calliparæus* from Magallania.

It appears, therefore, that the specimens of *P. calliparæus* from Lake Junin, as regards coloration, approach somewhat to our new species *P. taczanowskii*, while in the form of the bill, and in other respects, they agree with true *P. calliparæus*. Should the difference, as pointed out above, prove to be constant, we wish to reserve for the Junin bird the name *P. calliparæus juninensis*, Berl. & Stolz. Lastly, it may be well to refer to the fact that there is but slight variation observable in the length of the bills in specimens of *P. taczanowskii* as well as in those of *P. calliparæus* and its supposed subspecies.

X.—*Bulletin of the British Ornithologists' Club.*

Nos. XI. & XII.

No. XI. (Oct. 30th, 1893.)

THE tenth meeting of the Club, being the first meeting of the Second Session, was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 18th of October, 1893.

Chairman : P. L. SCLATER, F.R.S.

Members present :—E. BIDWELL, PHILIP CROWLEY, H. O. FORBES, W. GRAHAM, E. HARGITT, F. J. JACKSON, L. H. IRBY, A. P. LOYD, F. PENROSE, T. DIGBY PIGOTT, C.B., R. H. READ, HOWARD SAUNDERS (*Treasurer*), W. L. SCLATER, R. BOWDLER SHARPE, C. STONHAM, F. W. STYAN, H. A. TERRY, H. T. WHARTON, C. A. WRIGHT.

Guests : MESSRS. CASTLE and C. E. FAGAN.

The TREASURER reported upon the present condition of the Club, and announced that the number of members was now 96. He proposed "*that Members joining the Club after November 1, 1893, should pay an entrance fee of 5s.*" This resolution was carried unanimously.

Mr. PHILIP CROWLEY was elected a Member of the Committee, in the place of the Earl of Gainsborough, who retired in accordance with the Rules.

The Chairman gave the following Address :—

I PROPOSE to open the Second Session of the B. O. C. by offering a few remarks on recent events in the ornithological world. Before doing so, however, I cannot avoid alluding to a sad loss that we have recently experienced. Since our last meeting our list of Members has become one less by the death of Mr. John Tristram Tristram-Valentine, who had been an active Member of the Club since its foundation and had charmed us all by his genial and pleasing company. Tristram-Valentine, although he contributed

but little to the scientific literature of Ornithology, had done much to popularize our science by articles in the 'Saturday Review' and in other periodicals.

Turning now to the leading events in Ornithology, I will first call attention to the approaching completion of the great 'Catalogue of Birds' founded on the unrivalled collection of specimens in our National Museum at South Kensington. Twenty-one volumes of this most important work are, I need hardly remind you, already published. As we are informed in the recent Parliamentary Report of the British Museum, Vol. xxii. (Game Birds) by Mr. W. R. Ogilvie Grant, Vol. xxiii. (Rails, Cranes, and Bustards) and Vol. xxiv. (Waders) by Dr. R. B. Sharpe, and Vol. xxv. (Gulls and Petrels) by Mr. H. Saunders and Mr. O. Salvin, are now in preparation.

We may hope, therefore, in the course of another year to see the "beginning of the end" of the Catalogue. I need hardly allude to the importance of a full general index to conclude the work, but we may be quite sure that Dr. Günther has already considered this subject.

In other branches of ornithological literature the most pleasing novelty that has appeared since the termination of our last session is, I think, the first part of Mr. Rothschild's work on the 'Avifauna of Laysan.' A short time ago the very existence of Laysan and its neighbouring islands was hardly known to us. Mr. Rothschild's active collector has produced from these specks of rock a mass of material sufficient to fill a large quarto volume under Mr. Rothschild's elaborate treatment. This serves to prove, if further evidence were necessary, the importance of "island-life" and to show that no islet, however small and however remote, should be allowed to escape the minute investigation of the inquiring naturalist. On a cognate subject I may express a hope that the work of Messrs. Scott Wilson and Evans on the 'Birds of the Hawaiian Archipelago' will shortly be brought to a conclusion. When this is done our knowledge of the North-Pacific Avifauna may be fairly supposed to have made a very considerable advance.

Another work long expected, Mr. Dresser's volume upon

the Rollers, is now, I see, announced for immediate publication, while we may hope that the issue of Mr. Seebold's elaborate 'Monograph of the Thrushes' will not be long delayed. It is a pity to withhold from publication such a splendid series of well-drawn illustrations of a favourite group of birds.

As regards ornithological travellers, of whom I am glad to say we have always a good supply in the ranks of the B. O. U., Mr. Whitehead has recently departed on a new voyage of discovery to the East, and, as we are informed, will begin his work in Luzon and other islands in the Philippine group. Mr. O. V. Aplin has returned to this country after a successful expedition to Uruguay, and is now engaged in preparing an account of his results for publication in 'The Ibis.' Mr. J. G. Millais has been exploring the further recesses of Mashonaland in search of the White Rhinoceros, but has doubtless not entirely neglected his favourite Birds. Mr. J. D. de La Touche, of the Chinese Imperial Maritime Customs, has returned to Amoy, but, as he writes to me, is meditating an expedition to Takow in Formosa, where he will no doubt obtain adequate results. Mr. C. Hose has returned to his old quarters on the Baram River, accompanied by his brother, who will devote himself entirely to the further exploration of the mountains of this part of Borneo. To the southern part of the same island our excellent friend and correspondent Mr. Büttikofer, of the Leyden Museum, is now on the point of departure. It is evident, therefore, that good additions to our knowledge of the Ornithology of Borneo are likely to be made. Mr. C. W. Campbell, of the Chinese Consular Service, has returned to Corea, where there is still much work to be done in Natural History. From Mr. H. H. Johnston, C.B., whose headquarters are at Zomba, British Central Africa, I have lately received two large collections of birds, formed by Mr. Alexander Whyte, F.Z.S. Captain Shelley has kindly undertaken the working out of this series, which numbers 1033 specimens referable to 205 species. Amongst these not less than 9 are new to science. Captain Shelley's paper is already in type, and will be published in the first number of 'The Ibis' for next year.

Oologists, of whom there are many in the ranks of the B. O. U., will be pleased to hear that much progress has lately been made with the arrangement of the vast series of birds' eggs in the British Museum, which has been conducted under Mr. Seebohm's superintendence, and that it is expected that the whole will be shortly in working-order and accessible to students. The second cabinet of British birds' eggs was placed in the British Gallery in August last, so that an excellent series of these beautiful and interesting objects is now accessible to the public.

It may interest the Members of the B. O. C. to learn that, being on the Continent in the last week of September this year, I gladly embraced the long-wished-for opportunity of attending the Anniversary Meeting of the "Allgemeine deutsche ornithologische Gesellschaft," which commenced at Cassel on the 23rd of that month. I need hardly say that I met with a most friendly reception. Our much esteemed Honorary Member, Graf von Berlepsch, was in the chair, and I had the pleasure of passing several days in company with him, Dr. Reichenow, Herr Nehrkorn, Herr Schalow, Herr Matschie, and other well-known German naturalists. The most important point of discussion was the future of the 'Journal für Ornithologie,' which, as we all know, has been edited for more than forty years by Dr. J. Cabanis. Many interesting specimens of birds and eggs were also exhibited, and the question of a new Catalogue of German Birds was discussed.

Lastly, in concluding these remarks, I may venture to call attention to our own 'List of British Birds.' It is now ten years since this useful Catalogue was prepared and published. After ten years' increase of our knowledge of the subject, it is evident that certain modifications in nomenclature and alterations and additions to the List have become necessary, and I think that the question of the best mode of preparation of a second edition of 'The Ibis List of British Birds' should before long be taken into consideration.

Mr. PHILIP CROWLEY exhibited a curious buff-coloured variety of the Whinchat (*Pratincola rubetra*) obtained near Cromer during the late autumn.

Mr. T. DIGBY PIGOTT showed a fine series of Guillemots' eggs, procured from the Bempton Cliffs.

A letter was read from Mr. W. R. OGILVIE GRANT, with reference to a communication from Mr. J. A. Harvie-Brown which had appeared in the last number of 'The Ibis,' respecting the discovery of the Snow-Bunting's nest in Banffshire. Mr. Grant reminded the meeting that he had verbally described the share in the discovery taken by Messrs. L. Hinxman, Eagle Clarke, and others, and stated that a letter would be sent to 'The Ibis' on the subject. The Editor of the 'Bulletin' added that the omission of the two names above mentioned was purely accidental.

Mr. F. J. JACKSON exhibited a specimen of a curious Bush-Shrike which he had found on his last expedition into Eastern Africa—a young male, procured by him in the Mauungu Wilderness in December 1891; and on the return journey in April 1892 he obtained an adult male between Tsavo and Kufumika. The species was a dwarf form of *Dryoscopus gambensis*, but was so much smaller that there could be no difficulty in its recognition. Mr. Jackson proposed to call it

DRYOSCOPIUS PRINGLII, sp. n.

Similis *D. gambensi*, sed valdè minor: alâ vix 2·75 poll.
(nec 3·7 ut in *D. gambensi*).

Mr. E. HARGITT described a new species of *Picumnus* recently received by the British Museum as

+ *PICUMNUS SALVINI*, sp. n.

Similis *P. undulato* ex Guianâ, sed gastræi plumis medialiter nigro-guttatis, margine fusco præcinctis: gutturis plumis nigro terminatis, sed maculâ medianâ nigrâ nullâ distinguendus.

Hab. adhuc ignota.

With regard to the distribution of the South-American species of *Picumnus*, Mr. Hargitt remarked that there were none peculiar to the Patagonian Sub-region; while 10 were restricted to the Sub-Andean Sub-region; 2 were common to the Sub-Andean and Central American Sub-regions; 11 were peculiar to the Amazonian Sub-region, and 7 to the Brazilian Sub-region; and 1 was common to the Amazonian and Brazilian Sub-regions.

Dr. BOWDLER SHARPE stated that during a recent examination of the specimens of *Ardeirallus flavicollis* in the collection of the British Museum he had discovered that the birds recorded from Bourou and Ceram belonged to a totally different species, closely allied to *Ardeirallus woodfordi*, of Ogilvie Grant, from Guadalcanar; and as the Ceram bird appeared to be without a name, Dr. Sharpe proposed to call the species

ARDEIRALLUS PRÆTERMISSUS, sp. n.

Similis *A. woodfordi*, sed sordidior, brunnescentior, et collo postico brunnescente nec castaneo, et subcaudalibus cineraceis nec arenariis distinguendus. Long. tot. 19 poll., ala 8.2, tarso 2.6, digito medio cum ungue 2.4. *Hab.* in insulis Moluccanis, "Ceram" et "Bourou" dictis.

Dr. SHARPE also read a list of the birds obtained by Surgeon-Captain Penton near Suakin in the Red Sea. About 40 miles to the south-west of the town Captain Penton had visited the forest district of Erkowit and had obtained specimens of *Francolinus erkeli*, adding thereby considerably to our knowledge of its northern range. Some of the migratory birds were of considerable interest, as indicating the route by which certain species proceeded towards South Africa. The collection included examples of the following species:—*Argya acacie*, *Corvus scapularis*, *Cuculus canorus* (jr.), *Coccytes glandarius*, *Coracias garrula* (jr.), *Æna capensis*, *Pterocles lichtensteini*, *Pteroclorus senegallus*, *Numida ptilorhyncha*, *Ammoperdix heyi*, *Circus macrurus*,

C. æruginosus, *Melierax polyzonus*, *Buteo ferox*, *Scops gin*, *Asio accipitrinus*, *Strix flammea*, *Plotus levaillanti*, *Ardea goliath*, *A. cinerea*, *Ardeola comata*, *Demiegretta gularis*, *Butorides atricapilla*, *Sterna caspia*, *S. albigena*, *S. saundersi*, *Hydrochelidon leucoptera*, *Rhynchops flavirostris*, *Ædicnemus crepitans*, *Chettusia leucura*, *Rhyncha capensis*, *Hæmatopus ostralegus*, *Dromas ardeola*, *Cursorius gallicus*, *Houbara arabs*, *Crex crex*, *Inocotis comata*, and *Phænicopterus roseus*.

No. XII. (Nov. 28th, 1893.)

THE eleventh meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 15th of November, 1893.

Chairman : P. L. SCLATER, F.R.S.

Members present :—E. BIDWELL, W. T. BLANFORD, F.R.S., LEOPOLD FIELD, H. O. FORBES, E. HARGITT, A. P. LOYD, P. W. MUNN, H. J. PEARSON, HOWARD SAUNDERS (*Treas.*), R. BOWDLER SHARPE, G. E. SHELLEY, F. W. STYAN, E. C. TAYLOR, HORACE TERRY, A. TREVOR-BATTYE, H. T. WHARTON.

Guests : C. E. FAGAN, Dr. F. HARPER (Chicago), Major ARTHUR TERRY, E. WAKEFIELD.

Mr. SCLATER exhibited and made remarks upon a specimen of what is commonly called a "King" Parrot—*i. e.*, a variety of *Psittacus erithacus* stained with red (see Monteiro's 'Angola,' i. p. 54)—which is said not to be uncommon at Cassange, in the interior of Loanda.

Mr. SCLATER also exhibited specimens of the eggs of two Caprimulgidæ (*Podager nacunda* and *Hydropsalis furcifera*) obtained by Mr. O. V. Aplin in Uruguay.

Mr. F. W. STYAN exhibited the type specimen of the new

Bulbul from Formosa, which he had described as *Pycnonotus taivanus* in 'The Ibis' for 1893 (p. 470).

Mr. W. T. BLANFORD, F.R.S., read a paper on the proper names of Indian Eagles. A discussion ensued on the synonymy of these birds, especially of those of the group of the Spotted Eagles (*Aquila clanga*, *A. maculata*, &c.). Mr. Blanford's paper will be published in 'The Ibis.'

The following communication from Mr. O. SALVIN, F.R.S., on a new Humming-bird was read :—

" ANTHOCEPHALA BERLEPSCHI, sp. nov.

" *A. floricipiti* similis, sed apicibus rectricum lateralium late albis nec cervinis, abdomine et tectricibus subcaudalibus grisescens nec rufescentibus distinguenda.

" ♀ a femina *A. floricipiti* eodem modo differt.

" *Hab.* Colombia; environs of Bogotá.

" *Mus.* Berlepsch et Brit.

" *Obs.* Graf H. von Berlepsch has sent me a beautiful male specimen of an *Anthocephala* in which he, with his usual acumen, has noticed the differences from *A. floriceps*, as pointed out above. I have compared it with the type of the latter species, which, with a female of the true *A. floriceps*, is in the British Museum.

" In the same collection are two other skins which, in the Catalogue of Trochilidæ (Cat. Birds Brit. Mus. xvi. p. 172), I placed with *A. floriceps*. One is a male with several of the rectrices missing; the other is a female in poor condition. With Count v. Berlepsch's beautiful male before me, it is evident that both these specimens (*b* and *c*) belong to the bird which I now separate.

" All three are skins of the so-called Bogotá make, and doubtless came from some upland locality within the hunting-grounds of the Bogotá bird-collectors. The two specimens of *A. floriceps* in the Museum were shot at an elevation of 5000 feet above the sea in the Sierra Nevada of Santa Marta."

The Hon. WALTER ROTHSCHILD communicated the following note on *Himatione dolei* :—

“Mr. Scott Wilson, in the ‘Proceedings of the Zoological Society’ for 1891 (p. 166), described, under the name of *Himatione dolei*, a bird from Mauai which has not since been identified. Through the kindness of Mr. Wilson I have been enabled to examine his type; and I found, to my astonishment, that it was a very young specimen of the bird which I had named *Palmeria mirabilis*, although no one could possibly have made this out from the description.

“As the type, therefore, proves beyond doubt that Wilson’s bird is merely the young of my *Palmeria*, and as the latter genus is very distinct and has nothing to do with *Himatione*, being a genus of Meliphagidæ near *Chaetoptila* and not one of the Drepanididæ, the name of this peculiar bird must stand henceforth as *Palmeria dolei* (Wils.).”

Dr. BOWDLER SHARPE stated that Dr. Gregory, during his recent expedition to Mount Kenia, had obtained *Pinarochroa hypospodia* and *Nectarinia johnstoni*, at an elevation of 14,000 feet. Dr. Gregory was too much occupied to be able to spare time for collecting birds, but by procuring examples of these two species he had shown that the avifauna of Mount Kenia bears a close relationship to that of Mount Kilimanjaro, where the above-named species had been discovered at altitudes of 14,000 and 11,000 feet by Mr. H. H. Johnston, C.B. (see P. Z. S. 1885, p. 226). Mr. F. J. Jackson had also procured *P. hypospodia* on Mount Elgon at 11,000 feet (see Ibis, 1892, p. 162), but had not met with *Nectarinia johnstoni*.

Dr. BOWDLER SHARPE announced that he had recently examined a collection of birds found by Mr. A. H. Everett in the western islands of the Sulu Archipelago. The following species appeared to be new to science :—

1. SCOPS SIBUTUENSIS, sp. n.

S. similis S. mantananensi, sed alis extus vix albo notatis, et remigibus intus vix fasciatis distinguenda. Long. tot. 8·0 poll., alæ 6·0.

Hab. Sibutu Island.

2. *PRIONITURUS VERTICALIS*, sp. n.

P. similis P. flavicanti, sed maculâ verticali scarlatinâ nec coccineâ, pileo argentescenti-cyaneo nec cæruleo, et gastræo flavicanti-viridi distinguendus. Long. tot. 13·0 poll., alæ 7·2, caudæ 3·4, rectr. med. 5·8.

Hab. Tawi-Tawi, Bongao and Sibutu Islands.

3. *DICEUM SIBUTUENSE*, sp. n.

D. simile D. trigonostigmati, sed gutture saturatè schistacco, maculâ dorsali aurantiacâ distinguendum. Long. tot. 3·2 poll., culm. 0·45, alæ 2·0, caudæ 0·85, tarsi 0·5.

Hab. Sibutu Island.

4. *EDOLIISOMA EVERETTI*, sp. n.

Mas a mari *E. morionis* ex insulâ Celebensî vix diversus; fem. tamen gastræo toto cinereo concolore faciliè distinguenda.

Hab. Bongao Island.

Mr. W. T. BLANFORD, F.R.S., stated that he had recently examined an adult specimen of *Circus spilonotus* from Moulmein, thereby establishing the occurrence of this species in Burmah.

A communication was read from Mr. ABEL CHAPMAN on his experiences of the genus *Lagopus* in the British Islands, Scandinavia, and Spitzbergen. He considered that *Lagopus hyperboreus*, Sund. (*L. hemileucurus*, Gould), of Spitzbergen, was much more closely allied to the Willow-Grouse (*L. albus*) than to the Ptarmigan (*L. mutus*, Montin). It was a larger bird than the Ptarmigan, with stronger beak and feet, browner summer plumage, inhabited comparatively low ground, and uttered a Grouse-like "bee," quite unlike the "croak" of the Ptarmigan.

XI.—Notices of recent Ornithological Publications.

1. *Allen on the Birds of Matto Grosso.*

[On a Collection of Birds from Chapada, Matto Grosso, Brazil, made by Mr. H. H. Smith. By Joel Asaph Allen. Parts II. and III. Bull. Amer. Mus. Nat. Hist. iv. p. 331, and v. p. 107.]

Mr. Allen now concludes his account of this great Chapada

collection, of which we have already spoken (Ibis, 1892, p. 165). It is especially valuable for the excellent series of many little-known species obtained during every month of the year, and therefore affording opportunities for observation of variations in plumage, of which Mr. Allen has not failed to avail himself. Of the rare Piprine form, *Heteropelma flavicapillum*, for instance, a series of 65 specimens, representing both sexes and the plumage of every month in the year, is included; of *Casiornis rubra* 23 specimens, which show, in the latter case, no "very appreciable" amount of sexual variation. Of the little-known Formicarian *Herpsilochmus longirostris*, a series of 47 specimens enables several important deductions to be arrived at. The Motmots of the group of *Momotus momota* also give occasion for critical remarks, but "Mr. Selater" was not the cataloguer of the Motmots in the 17th volume of the British Museum Catalogue, nor can he quite believe that the Chapada specimens are correctly referable to *M. subrufescens*.

Pygmornis chapadensis is described as a new species in part iii., and, as new subspecies, *Piaya cayana cabanisi* and *Buteo albicaudatus sennetti*. Altogether 324 species are registered as represented in the Chapada Collection, by the working out of which a material advance has been effected in our knowledge of the South-Brazilian Ornis.

2. *Blaauw's Comparative List of the Birds of Holland and England.*

[Comparative List of the Birds of Holland and England. By F. E. Blaauw. Notes Leyden Mus. xv. p. 183.]

Our best thanks are due to Mr. Blaauw for his comparative list of the birds of Holland and England, which will be very useful to students of our native avifauna. It will be the more easily consulted by British ornithologists because the nomenclature and arrangement of the List of the B. O. U. are followed throughout. Thus the list of British Birds, having been increased by 10 additions since 1883, now consists of 385 species. Short notes are added to the names of such of them as occur in Holland, to indicate when and where they are found. Altogether 315 species have been

recorded as occurring within the limits of the Kingdom of the Netherlands, of which 57 are counted as residents, 96 as summer visitors, 68 as winter visitors, and 94 as occasional visitors. The summary of previous publications on the birds of Holland, which is prefixed to Mr. Blaauw's list, is likewise very useful.

We notice that *Alauda cristata*, a rare straggler in England, is reckoned as a permanent resident in Holland, "breeding in the dunes and heather districts."

3. Gadow's "Aves" in Bronn's 'Thier-Reich.'

[Dr. H. G. Bronn's Klassen und Ordnungen des Thier-Reichs wissenschaftlich dargestellt in Wort und Bild. Sechster Band. Vierte Abtheilung: Vögel: Aves. 42-49 Lief. Von Hans Gadow. Leipzig u. Heidelberg, 1893.]

Since we last noticed the "Aves" of Bronn's 'Thier-Reich' (Ibis, 1892, p. 562) three more parts, containing numbers 42 to 49, have been issued to complete the work, of which Dr. Gadow has kindly sent us the last half-sheet (containing the summary of his system) as a convenient reminder. It was indeed time that the task commenced in 1869 should be brought to a conclusion, and we are truly grateful to Dr. Gadow for having taken it up when long forsaken, and finished it. The "Aves" of Bronn's 'Thier-Reich' may now be bound up and placed on our bookshelves, where the ornithologist will find it a most useful work of reference.

The three final numbers of the "Aves" are devoted to the classification of Birds, and commence with a historical summary of previous systems, from that of Linnæus in 1735 to that of Sharpe in 1891. Dr. Gadow then states at full length what he considers as ascertained characters of taxonomic importance, and gives a series of tables showing how these characters vary in the different groups. The whole of these groups are then taken up one after the other, commencing with *Archæopteryx* and ending with the Oscines, and full particulars of their principal characters are given. A chapter on geographical distribution follows, and the work

concludes with a general synopsis of the system ultimately adopted, which is slightly modified from that of the same author published in 1892 (P. Z. S. 1892, pp. 222-256). We advise all ornithologists to buy this book and study it. It contains a well-arranged mass of useful information on "Aves," which can hardly be got at elsewhere.

4. Gurney on an Immigration of the Lapland Bunting.

[An Immigration of the Lapland Bunting (*Calcarius lapponicus*, Linn.). By J. H. Gurney, F.L.S., &c. Trans. Norf. & Norw. Nat. Soc. v. p. 372.]

The Lapland Bunting (*Calcarius lapponicus*) came to Norfolk and other eastern counties of England in flocks in September and October, 1892. Fifty-six, if not more, were taken on the coast near Yarmouth, and others at Cley and in other places. The sexes were nearly equal in numbers, the males preponderating a little. Mr. Gurney gives us full particulars of this unprecedented irruption of a species hitherto reckoned amongst the stragglers.

5. Hasbrouck on Dichromatism in Megascops.

[Evolution and Dichromatism in the Genus *Megascops*. By E. M. Hasbrouck. Amer. Nat. xxvii. p. 521.]

Mr. Hasbrouck attacks the formidable problem of dichromatism, which, as is generally known, is well exemplified in certain Owls of the genus *Scops*. He gives us an excellent disquisition on the subject, fully illustrated by tables, maps, and diagrams.

Mr. Hasbrouck attempts to show, first, that while the red, the grey, and the intermediate phases of *Megascops asio* are at present but individual variations of the same species, the grey was the ancestral stock; secondly, that from the grey form has evolved the red, which at some future time will be a recognized subspecies, with a range peculiar to itself; thirdly, that this condition of affairs is influenced by four powerful factors (two of these, temperature and humidity, being dominant powers in geographical distribution), the most

potent of which is temperature; fourthly, that the *predominating* distribution of the respective colours is largely confined to the faunal divisions of the Eastern United States, and is gradually effecting the subspecific differentiation of the two phases; lastly, that the Darwinian theory of "Reproduction with variation and the survival of the fittest" is well exemplified in *Megascops asio*.

6. *Lewis on the Birds of Hertfordshire.*

[Notes on Birds observed in Hertfordshire during the year 1892. By Henry Lewis. Trans. Hertf. N. H. Soc. 1893, p. 161.]

Three additions were made to the list of the birds of Hertfordshire in 1892, namely, *Aix sponsa*, *Dafila acuta*, and *Harelda glacialis*, and the total number of the Avifauna was thus raised to 205. Mr. Lewis adds miscellaneous notes, and records the arrival of the migratory species in 1892.

7. *Meyer's Illustrations of Birds' Skeletons.*

[Abbildungen von Vogel-Skeletten. Herausgegeben mit Unterstützung der Generaldirection der königlichen Sammlungen für Kunst und Wissenschaft in Dresden. Von Dr. A. B. Meyer. Lief. xiv., xv. (1890); xvi.-xviii. (1892). Folio. Dresden: 1890-92.]

For several years Dr. Meyer's great work on the skeletons of birds has not been noticed in 'The Ibis,' the last part commented upon having been part xiii. of the series. Since that, five additional parts have been issued, and the work altogether, so far as it has gone, contains 180 plates. We are not of opinion that figures of the whole skeleton afford the best possible illustrations of this part of the bird's structure. A series of the various separate bones placed side by side would in many respects be more useful to the student. At the same time, Dr. Meyer's work, when complete and provided with a good index, will, no doubt, be a very useful publication, as giving a general view of the variations in the osteology of birds.

8. *Meyer on the Birds of German New Guinea.*

[Neuer Beitrag zur Kenntniss der Vogelfauna von Kaiser Wilhelmsland, besonders vom Huongolfe, nebst Bemerkungen über andere Papuanische

Vögel und einer Liste aller bisher von Kaiser Wilhelmsland Registrirten. Von A. B. Meyer. Abh. u. Ber. k. zool. u. anthro. Mus. Dresden, 1892-93, no. 3.]

This is Dr. Meyer's fifth article on the birds of Kaiser-Wilhelm's Land, as the German section of New Guinea is called. The third was noticed by us in 1892 ('Ibis,' 1892, p. 337); the fourth was published in the Journal f. Orn. for the same year.

The present memoir is based on the last collection of Herr Bruno Geisler, who has now left New Guinea, and treats of 78 species and subspecies, of which the following 8 are characterized as new :—*Baza timorlaensis*, from Timor Laut; *Falco severus papuanus*, from S.E. New Guinea; *Urospizias sumbaensis*, from Sumba; *Lorius erythrothorax rubiensis*, from Rubi, N. G.; *Pæcilodryas melanogenys* and *Drepanornis geisleri*, from Huon Gulf, N. G.; *Megaloprepia poliura septentrionalis*, from N. and E. New Guinea and Jobi; and *Carpophaga muelleri aurantia*, from Northern New Guinea.

Paradisea gulielmi of Cabanis (J. f. O. xxxvi. p. 119) is made the type of a new genus, *Trichoparadisea*. Examples of this Paradise-bird were obtained by Herr Geisler on the "Sattelberg," north of Huon Gulf, at an elevation of 800 metres, and on Mt. Nanson, N.W. of Huon Gulf, at an elevation of 1600 metres. Both sexes are now fully described. Full notes are given on all the species.

At the end of the paper a complete list of the species known from Kaiser-Wilhelm's Land (128 in all) is given. Two plates contain a chart of the northern coast of Huon Gulf, and figures of the eggs of three species of Cassowary.

9. Nehrling's North-American Birds.

[North American Birds. By H. Nehrling. With 36 Coloured Plates after Water-colour Paintings by Prof. Robert Ridgway, Smithsonian Institution, Washington, D.C., Prof. A. Goering, Leipzig, and Gustav Muetzel, Berlin. Parts III.-VIII. 4to. Milwaukee, Wis., 1891-93.]

Mr. Nehrling's work, which we last noticed in 1890 (see Ibis, 1890, p. 377), has now reached its seventh and eighth parts, which are issued as a double number, and conclude the first volume. The figures, reduced to a small size, are nicely

drawn, and in most cases well printed in colours. They will serve at any rate to distinguish all but the most closely-allied species, and looking at the very moderate price charged for it the work will, no doubt, meet with a considerable success among those who require a cheap and well-written book on a popular subject.

10. *Newton and Gadow's Dictionary of Birds.*

[A Dictionary of Birds. By Alfred Newton, assisted by Hans Gadow. With Contributions from R. Lydekker, C. E. Roy, and R. W. Shufeldt. Part II. London: A. & C. Black, 1893.]

We have to thank the publishers for an early copy of the second part of the 'Dictionary of Birds,' and regret that it did not arrive quite in time to be acknowledged in our last number. A perusal of its pages has convinced us that this volume, when completed, will be one of the most useful aids to the working ornithologist that have been issued for a long period. Besides the well-condensed article given under every head, full references are always added to the most recent authorities upon the subject, so that one can at once turn to the works where more detailed information is to be found. As might have been expected from the Editor's well-known carefulness, misprints are few, and mistakes, perhaps, still fewer. But amongst the latter we venture to include the rather unkind allusions to well-known fellow-workers on Ornithology that are occasionally found in the 'Dictionary.' For example, Mr. Seebohm's theory of the introduction of the Blue Magpie into Spain (*op. cit.* p. 342) cannot, we believe, be fairly maintained. But it is not more ridiculous than many other explanations of the vagaries of geographical distribution that habitually pass current in the present day and receive general acquiescence, if not approval.

The elaborate essay on Geographical Distribution, which occupies fifty pages of the present part, is an important contribution to this branch of our science. The reasons that have induced the author to unite the Palearctic and Neartic into a "Holarctic" Region are now set out. We

regret to find that we made a great error in our previous notice of this work (Ibis, 1893, p. 584) in attributing Prof. Newton's adoption of these views to the influence of American writers, for Prof. Newton assures us that he has held them for years, and upon referring to Heilprin's 'Geographical and Geological Distribution of Animals' we find that the author designates the "Holarctic Region" in accordance with a suggestion received from "Prof. Newton, of Cambridge." We therefore tender him our best apologies for this mistake. But, after all, we are pleased to find that the divergence between us on this point is a mere matter of degree, as in Prof. Newton's essay the "Holarctic" Region is immediately divided into the Neartic and Palearctic Subregions. The objection to Prof. Newton's mode of treatment of a confessedly difficult question is that such types as the Tyrannidæ, Icteridæ, and Virconidæ, which are altogether foreign to the whole of the Old World, are thereby admitted into the circle of its avifauna. A more reasonable view, in our opinion, is to admit that the Neartic Area, while it has been materially modified by incursions from the Palearctic and Neotropical Regions, has still an important autochthonous element, and may fairly be kept separate from both of them.

11. *Oustalet on Birds from India, Tibet, and China.*

[Sur quelques Oiseaux de l'Inde, du Tibet et de la Chine. Par E. Oustalet. Bull. Soc. Zool. France, xviii. p. 17 (1893).]

Two singular varieties of the Impeyan have been discovered by a Parisian feather-dealer in the stores of London. Upon these M. Oustalet proposes to establish two subspecies—*Lophophorus impeyanus* var. *mantoni* and *L. imp.* var. *obscura*. He likewise refers the so-called *Palæornis derbyanus* of Chinese Tibet and Western Szechuen (Ois. de la Chine, p. 1, pl. i.) to a new species as *Palæornis salvadorii*, Count Salvadori having convinced him that the previous identification was erroneous. See the latter's remarks on this subject in the 'Catalogue of Parrots' (Cat. B. xx. p. 464).

12. *Pavesi's Ornithological Calendar of Pavia.*

[Calendario Ornitologico Pavese 1890-93 del Prof. Pietro Pavesi. Boll. Scient. Pavia, xv. 1893.]

Prof. Pavesi gives us an account of the ornithological events in the province of Pavia from July 1890, for three years. Amongst other events he records the occurrence of *Cygnus bewickii* in January 1891, and of *Phænicopterus roseus* in October 1892. Seven Snow-Buntings (*Plectrophenax nivalis*) appeared at Pavia on December 9th, 1892.

13. *Reichenow's List of German Birds.*

[Systematisches Verzeichniss der Vögel Deutschlands und des angrenzenden Mittel-Europas. Von Dr. Ant. Reichenow. Verlag d. Linnaea. Berlin, 1889.]

We have to thank Dr. Reichenow for a copy of his 'List of German Birds,' which, though issued in 1889, has hitherto, we regret to say, escaped our notice. In order that no British ornithologist may in future remain in a similar state of ignorance, we will give a short account of it.

Dr. Reichenow's list contains the names of 396 species. It is prepared somewhat on the same plan as the British List of the B. O. U., giving the Latin and German names adopted for each species, together with the authority and date of the former, the ordinary vernacular names, and a short account of the distribution. Other remarks are occasionally introduced. We are pleased to find that the American plan of "beginning at the wrong end" is not followed, but the tenth (1758) instead of the twelfth (1764) edition of the 'Systema Naturæ' is taken as a starting-point, which results in many inconvenient changes in nomenclature. We are likewise pleased to see that the American practice of refusing to correct ungrammatical and clerical errors is altogether abjured.

A few remarks on some of the names adopted may be added. *Erithacus* is employed as a common generic term for the Nightingales, Robins, Bluethroats, and Redstarts. The Robins and Bluethroats certainly come very near together, but all four groups should, in our opinion, remain independent.

Even Mr. Seebohm keeps *Ruticilla* distinct. Nor should “*rubecula*” be changed to “*rubeculus*.” “*Rubecula*” is, we believe, a substantive (see ‘Ducange’), like many other Linnean specific terms. Of the incorrectness of using *Acanthis* for the Linnets the Editor has already spoken (see *Ibis*, 1892, p. 555). *Acanthis* is a mere synonym of *Carduelis*. *Chloris* of Cuvier, not *Ligurinus*, as employed in the B. O. U. List, seems to be really the oldest generic name for the Greenfinch, so that we shall have to follow Dr. Reichenow in calling this familiar bird *Chloris hortensis*, unless we succumb to the “Scomber scomber” precedent. *Micropus* is no doubt an older name than *Cypselus* for the Swifts. But *Micropus* is a Linnean name used in Botany for a genus of Composites. We regret to see that it has been resuscitated not only by Dr. Reichenow and the Americans, but by Mr. Hartert (*Cat. B.* xvi. p. 437). Mr. Hartert, however, is wrong; moreover this term had already been used in the ‘Catalogue of Birds’ (vi. p. 64) for a genus of Timeliidæ. Though the names of plants and birds may be nearly alike, they must not be identical! “*Iynx*” (as is well known) is a dissyllable, with the first syllable long (ī-ynx), and should not be written “*Jynx*.”* “*Melanaëtus*” of Linnæus for the Imperial Eagle is at least doubtful. Better keep to the first certain name, which seems to be “*heliaca*” of Savigny.

It has been most clearly shown in this Journal as long ago as 1879 (*Ibis*, 1879, p. 196) that the proper name of the Purple Waterhen of Spain and Sicily is *Porphyrio cæruleus* (Vandelli). It has likewise been shown (*l. s. c.*) that there is no such name as “*veterum*, Gm.,” and, moreover, that the species from Persia upon which it has been (wrongly) supposed that Gmelin bestowed the name is *P. poliocephalus* of India (see *Ibis*, 1884, p. 229, and 1891, p. 136). It is, therefore, a double error to continue to call the South-European Porphyrio “*Porphyrio veterum*,” as Dr. Reichenow does in his footnote, p. 43.

As regards the substitution of *Colymbus* for *Podiceps* as

* Cf. Wharton, *Ibis*, 1879, p. 453.

the generic name of the Grebes, we fully agree with Graf v. Berlepsch's views (above, p. 109). At the same time it may be reasonably held that *Colymbus arcticus*, being the first species mentioned in the 'Systema Naturæ' for 1758, should remain the type of Linnæus's genus *Colymbus*.

14. *Ridgway on two new Swifts.*

[Description of two supposed new Species of Swifts. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 43.]

Mr. Ridgway describes *Chætura lawrencii* from Grenada, W. I., as a form allied to *C. cinereiventris*, but perhaps only a subspecies, and *Cypseloides cherriei* as a distinct new subspecies from Costa Rica.

15. *Ridgway on a new Odontophorus.*

[Description of a supposed new Species of *Odontophorus* from Southern Mexico. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 469.]

Odontophorus consobrinus from Vera Cruz is described as a northern representative of *O. guttatus* of Costa Rica.

16. *Rothschild on the Avifauna of Laysan.*

[The Avifauna of Laysan and the neighbouring Islands; with a complete History to date of the Birds of the Hawaiian Possessions. By the Hon. Walter Rothschild. London: R. H. Porter. Part I. August, 1893.]

"Where is Laysan?" many of our friends will say when they read the title of this work; and, indeed, a very few years ago Laysan was almost unknown, save to the compilers of Pacific directories and to the few American navigators who steered by them. Now we have a large quarto book devoted primarily to the Avifauna of Laysan. Mr. Rothschild bases his work on the spoils brought back by his collector, Mr. Henry Palmer, who reached Laysan from Honolulu in June 1891, and spent three months in the investigation of that and the adjacent islands. Mr. Palmer's diary is given in full, so that we know exactly all the localities which he visited. Besides this diary the introductory portion of the volume contains a description of Laysan and a trans-

lation of the notes upon its birds made by the well-known naturalist v. Kittlitz, and published in 1834. Unfortunately it was Kittlitz's companion-ship (the 'Senjawi'), and not that in which he himself was (the 'Moller'), that visited the island in 1828, so that Kittlitz's remarks upon its birds were drawn up from hearsay, and are necessarily of a fragmentary character.

After the introduction we have a complete account of the 27 known birds of Laysan and its adjacent islands. Synonymy, descriptive characters, and particulars as to locality and habits are given with each species. The Passeres of Laysan are only four—*Acrocephalus familiaris*, *Himatione freethi*, *Telespiza cantans*, and *T. flavissima*. Mr. Scott-Wilson originally described *Telespiza cantans* as from Midway Island (Ibis, 1890, p. 341), but Mr. Palmer says this and the allied Finch are both common in Laysan Island, and that in Midway Island there are no land-birds whatever.

Mr. Rothschild's work is splendidly illustrated by coloured figures of the following species, drawn by Keulemans and Frohawk:—

<i>Acrocephalus familiaris</i> .	<i>Anous stolidus</i> . }
<i>Himatione freethi</i> .	—— <i>melanogenys</i> . }
<i>Telespiza cantans</i> .	—— <i>hawaiiensis</i> .
—— <i>flavissima</i> .	<i>Puffinus nativitatis</i> .
<i>Porzanula palmeri</i> .	<i>Œstrelata hypoleuca</i> .
<i>Anas laysanensis</i> .	<i>Diomedea chinensis</i> .
<i>Haliplana lunata</i> .	—— <i>immutabilis</i> .

Besides these there are two coloured plates of nests and eggs, and a large number of uncoloured lithographs containing representations of scenes in Laysan, photographs of its birds from life, and views of the nesting-places of the Sooty and Noddy Terns, and of various Albatrosses and Petrels. Altogether we have the inaugural part of a fine volume, which promises well for the future usefulness of the Tring Museum, whence it has proceeded, and reflects the greatest credit upon its energetic author.

17. *Ryder on the Form of the Fowl's Egg.*

[On the Mechanical Genesis of the Form of the Fowl's Egg. By John A. Ryder. Proc. Am. Phil. Soc. xxxi. p. 208 (1893).]

Mr. Ryder discusses the origin of the form of the hen's egg, which is "apparently determined by mechanical means, while the egg-membranes and shell are in process of formation within the oviduct." He considers the development of the figure to be "in all probability a purely dynamical problem," and endeavours to show how the variations are produced.

18. *Selous on Mashunaland and its Birds.*

[Travel and Adventure in South-east Africa. By F. C. Selous, C.M.Z.S. London: Rowland Ward & Co., 1893.]

Mr. Selous is best known to us as a mighty hunter of the larger mammals, and as author of some excellent field-notes on their habits and distribution*. But those who read the interesting narrative contained in the present volume will see that he is also an accurate observer of the habits of birds. In August 1882 he records the occurrence of *Coracias spatulatus*, Trimen, at Manyanga's, on the Upper Zambezi (*op. cit.* p. 48). In the same district he comments on the appearance of *Gallirex porphyreolophus* and several Kingfishers. Lower down on the Zambezi near Zumbo, Mr. Selous (*op. cit.* p. 64) met with a "flock of Parroquets or Mouse-birds," of a species unknown to him. They were of "a pale green colour, with rose-coloured heads and long tails." He had seen the same birds on the Kafukwe river once before. Mr. Selous also tells us the following curious story respecting a small Owl and a chameleon:—

"Whilst waiting for the horses I took a stroll along the footpath towards Seskeki with my butterfly-net, and as I was walking slowly along saw, sitting on a patch of bare ground beneath a thorn-tree and not ten yards from me, a very small Owl, of a species which I know well, though I am unacquainted with its Latin name. Surprised at its tameness, I walked towards it, but it did not move until I was

* See his articles in P. Z. S. 1881 and 1883.

quite close to it, when it opened its wings and flew for two or three yards. As it did so I saw that there was something attached to one of its legs, and on catching it found a large chameleon was fast secured to it, having its tail firmly twisted two or three times round one of the Owl's legs. How they had got into this position I cannot say, but I fancy that the little Owl must first have attacked the chameleon, though upon detaching it I could find no wounds or scratches of any kind upon it. Neither was there anything amiss with the Owl, which, as soon as I had released it, flew away and perched in a neighbouring thorn-tree."

19. *Shufeldt on a Hybrid Grouse.*

[Notes on the Trunk Skeleton of a Hybrid Grouse. By R. W. Shufeldt. Auk, x, p. 281.]

Dr. Shufeldt gives us some notes on the skeleton of a hybrid Grouse, apparently bred between *Tympanuchus americanus* and *Pediæcetes phasianellus campestris*.

20. *Trimen on the Vertebrates of the Cape Colony.*

[Illustrated Official Hand-book of the Cape and South Africa. Edited by John Noble. London: Stanford, 1893.]

The third chapter of this valuable hand-book to the Cape Colony and adjoining lands, to which so much public attention is now directed, is devoted to an account of the South-African vertebrate fauna, which has been prepared by Mr. Roland Trimen, F.R.S., the Curator of the South-African Museum. In such a limited space it was impossible, as Mr. Trimen points out, to give more than the barest outline of this enormous subject. Only eleven pages are allowed for the birds, but those who wish to know more about this subject have an excellent guide to refer to in Sharpe's new edition of Layard's 'Birds of South Africa.'

21. *Winge on Birds observed at the Danish Light-stations.*

[Fuglene ved de danske Fyr i 1892. 10de Aarsberetning om danske Fugle. Ved Herluf Winge. Vidensk. Medd. naturh. Foren. Kjøbenhavn. 1893, p. 21.]

The report on the birds observed at the Danish light-stations in 1892 is compiled after the manner of that of 1891 (see *Ibis*, 1893, p. 150). It is the tenth of the series. Sixty-two species of birds are registered in the list.

XII.—*Letters, Extracts, Notices, &c.*

THE following letters, addressed to the Editor, have been received:—

SIR,—It seems probable that a migration to Western Europe of the Nutcrackers (*Nucifraga caryocatactes*) is about to take place this season. One of these birds was obtained in this district about two miles from my house on the 21st of October last.

I am, Sir,

Yours &c.,

F. E. BLAAUW.

's Graveland, Hilversum, Holland,
November 16th, 1893.

SIR,—In the *résumé* of my account of the taking of the Snow-Bunting's nest in Banffshire, which was published in the June number of the 'Bulletin of the British Ornithologists' Club,' no. x. p. lv (1893), the names of Mr. L. Hinxman and Mr. W. Eagle Clarke were omitted. It will, no doubt, be remembered by those who were present at the June meeting of the Club that I particularly mentioned the names of both these gentlemen, acknowledging the help that I had received from them, and also describing their part in the finding of the nest. As I did not see the above-mentioned number of the 'Bulletin' in proof, I am not responsible for the omission of their names, which I regret, and the Editor has since explained that this omission was purely accidental (see B. O. C. ii. no. xi. p. iii, 1893). But I cannot see why this mistake should have called forth the plaintive letter from Mr. J. A. Harvie-Brown (see *Ibis*, 1893, p. 593). To the account which I have given of the expedition to the members of the British Ornithologists' Club I have nothing to add, nor have I to correct

any part of it. As to the account which appeared in the 'Annals of Scottish Natural History,' no. 7, p. 181 (1893), I would suggest only the modification that the female bird "was observed to slip in under a rock," not merely "by one of the writers," but simultaneously by both my companions, Captain Savile Reid and Mr. G. St. Quintin. I may add that the spot where the nest was found was the place which Mr. F. D. Godman had specially indicated to me as the most likely on his ground, and to which he had ordered his stalker to take us first. Finally, I can only regret that an otherwise pleasant and successful trip should have ended in so unpleasant a controversy.

I am,

Yours &c.,

W. R. OGILVIE GRANT.

British Museum (Natural History),
Cromwell Road, S.W.,
December 8th, 1893.

Report of the British Museum for 1892.—The issue of the Parliamentary Report of the Trustees of the British Museum for 1892 was delayed, like all other business last year, by the protracted struggle over the Irish Bill. We were therefore unable to notice it in our last number. The chief particulars as regards Ornithology are now given.

Turning to the special report of the Department of Zoology, we are informed that the arrangement of the unmounted Bird-skins has proceeded with the progress of the 'Catalogue.' Besides, a great part of the specimens received since the publication of volumes 9 and 10 have been incorporated, placed in glass-topped boxes, and labelled in accordance with the nomenclature of the 'Catalogue.'

The arrangement of the collection of Birds' Eggs has been proceeded with by Mr. Seebohm; 22 cabinets are now completed. The whole of the Egg-collection, with the exception of the eggs of Passerine Birds, which are still in progress of arrangement, is therefore available for study.

Four groups, illustrating the nesting-habits of British Birds, have been completed, viz.: Hooded Crow, Carrion Crow, Martin, and Swift; and much progress has been made

in the mounting of similar groups of the Buzzard and Golden Eagle. The faithful reproduction of the rock-work, which forms the base for these two groups, and fills a large wall-case in the Bird-Pavilion, has been executed with great skill by Richard Hall, a mason whose services were obtained from the Geological Department.

A case, illustrating the nesting of the Hoatzin (*Opisthocomus cristatus*), comprising nest, eggs, and parent birds from British Guiana, has been mounted for the Bird Gallery. The specimens were presented by J. J. Quelch, Esq., of the Georgetown Museum.

The following are noticed as being amongst the "most important acquisitions" in zoology :—

The Collection of Chilian Birds formed by the late Harry Berkeley James, Esq., F.Z.S., consisting of 1042 specimens; presented by Mr. James shortly before his death.

The eighth instalment of the Salvin-Godman Collection of Birds, referred to in the Report of 1885. This series consists of 4447 specimens, and contains 12 types and 25 species new to the collection.

The second instalment of a Collection of Birds' Eggs, consisting of about 3000 specimens belonging to the Orders *Striges*, *Picariæ*, *Coccyges*, and *Passeriformes*; presented by Henry Seebohm, Esq.

A series of 1013 skins of Wading Birds; presented by Henry Seebohm, Esq.

A valuable series of Vertebrates from the Nyasa highlands, comprising 264 birds, including examples of many species new to the collection; presented by H. H. Johnston, Esq., C.B., H.B.M. Commissioner for Nyasa-Land.

Four consignments of zoological specimens collected by Messrs. J. J. Walker, Chief Engineer, and P. W. Bassett-Smith, Medical Officer of H.M.S. 'Penguin.' The specimens were collected in various localities between Australia and China, and comprise 78 birds.

The following list is given of special acquisitions in the Class of Birds, to which list 11,069 specimens of skins and eggs were added in 1892 :—

Four hundred and forty-seven specimens from Captain Savile Reid's Collection ; purchased.

A series of 18 Cuckoos' Eggs, with the accompanying clutches of the eggs of the foster-parents ; purchased.

Four hundred and seventy-four Birds from various parts of Hungary ; presented by the Hungarian National Museum.

Twelve specimens from Transylvania, including a pair of *Merula alpestris*, new to the collection, with the nest and eggs ; presented by C. G. Danford, Esq.

One hundred and eighty African Birds from the Shelley Collection, containing one type and two species new to the collection ; purchased.

Ten birds from Aden, including skins of a rare Bee-eater (*Merops cyanophrys*) ; presented by Lieut. H. E. Barnes.

Two specimens of a rare Chat (*Myrmecocichla nigra*) from Angola, and the type of a new species of Timeline Bird (*Amaurocichla bocagii*) from the island of St. Thomas ; presented by Professor Barboza du Bocage.

Examples of three species of Birds, new to the collection, viz. : *Harpactes whiteheadi*, from Mount Kina Balu, and *Columba nitens* and *C. versicolor*, from the Bonin Islands ; presented by Henry Seebohm, Esq.

One hundred and eighteen Birds from Sarawak and North-western Borneo, obtained by Mr. A. H. Everett, including the type of *Scops mantananensis* and examples of two other species new to the collection ; purchased.

One hundred and one specimens obtained in the highlands of Sarawak by Mr. Charles Hose, including 11 types and examples of 19 species new to the collection ; purchased.

Sixteen specimens from the island of Engano, including examples of nine species new to the collection ; purchased.

A pair of Newton's Bower-bird (*Prionodura newtoni*) from Queensland ; presented by C. W. De Vis, Esq.

The type of *Platycercus erythropeplus* ; purchased from the Zoological Society.

Examples of 8 species of Birds from the New Hebrides, including a Pigeon (*Ptilopus corriei*), new to the collection ; presented by Professor Collett.

Twenty-one Birds from the Chatham Islands, including the type of a new Petrel and examples of 3 species new to the collection, as well as of the nearly extinct Rail, *Cabalus modestus*; purchased.

Two specimens of *Porzanula palmeri*, a new species of Crake from Laysan Island; presented by the Hon. Walter Rothschild.

Twenty-seven Birds from the island of Anguilla, West Indies; presented by the West Indies Exploration Committee.

Twenty-two specimens of Birds from various localities, including nine Peruvian birds, new to the collection; presented by the Counts Branicki, of Warsaw.

Otocorys penicillata in Europe.—Although Mr. Dresser has admitted the beautiful Pencilled Shore-Lark (*Otocorys penicillata*) into the category of Western Palearctic species (B. Eur. iv. p. 395, pl. 244), he has not recorded its occurrence in Europe. This, however, has been now ascertained for certain, and there can be little doubt that this Lark breeds in the mountains of Bosnia, although, so far as we are aware, its nest has not yet been obtained. It seems to have been first noticed in that country in 1882, when four or five examples were shot near Serajevo by Herr Bischoff. Again, in December 1887 it was observed in the neighbourhood of Livno in small flocks, and some living specimens were captured. A single skin which came to the Museum of Serajevo enabled Dr. Reiser, the Custos of the Museum of Serajevo, to recognize the species as *O. penicillata*, a view subsequently confirmed by Ritter v. Tschusi. Later on, in the district of Zupanjac, young birds of the year were obtained, which renders it nearly certain that this Shore-Lark breeds in the neighbourhood (*cf.* Reiser, in Orn. Jahrb. i. p. 106, 1890).

Collectors in South America.—Herr G. Garlepp, who has lately been in Europe, has now returned to Bolivia, to recommence his labours in the province of La Paz. On his way there he has obtained a series of about 230 skins on Lake Titicaca and in the adjoining district of High Peru.

All his birds go to Graf v. Berlepsch's Museum. Dr. H. v. Jhering has changed his residence to São Paulo, and has become Director of the Museum of that city. Mr. J. Kalinowski, the collector of the Museum Branickianum of Warsaw, has sent home a very fine series of specimens from the Junin district of Peru, which are now being examined and named by Graf v. Berlepsch and M. Stolzmann. The new Grebe, described and figured above (p. 109), is one of the first-fruits of this naturalist's exertions.

The Systematic Position of Æpyornis.—The 'Geological Magazine' of December last (n. s. dec. iii. vol. ix. p. 572) contains an article of special interest to ornithologists. This is a notice of the memoir lately contributed to the 'Palæontologische Abhandlungen' (N. F. Bd. ii. Heft ii.) by Prof. Burekhardt on some remains of *Æpyornis* collected by Hildebrandt in Central Madagascar during the year 1880, and now deposited in the Mineralogisches Museum in Berlin. The special interest of the paper, as the reviewer in the 'Geological Magazine' points out, consists in the fact that we have now descriptions and figures of the pelvis and metatarsus of *Æpyornis*. The collection also included a complete tibia, an imperfect femur, some vertebræ, and some fragments of ribs. These remains are referred to a new species (*Æpyornis hildebrandti*) intermediate in size between the *Æ. medius* and *Æ. modestus* of Milne-Edwards.

After an exhaustive comparison of the osteological characters of *Æpyornis* with those of the other Ratites, the author comes to the conclusion that the *Æpyornithidæ* constitute a distinct family of Ratitæ, having no near relations, and being highly specialized and characterized by the massive structure of the skeleton accompanied by the pneumaticity of some of its parts. The resemblances to the *Dinornithidæ* he regards as superficial and merely the result of convergence due to similar conditions of life; on the other hand, the differences are considered to be of great importance—*e. g.*, the pneumaticity of the femur, which, among the Ratitæ, occurs in *Æpyornis* and *Struthio* alone. *Struthio* also resembles *Æpyornis* in some other respects—

e. g., the structure of its egg-shell; so that on the whole the relationship between them is regarded as less remote than that existing between the *Æpyornithidæ* and the other Ratite families.

In conclusion, it is suggested that the *Dromæidæ* and *Casuariidæ*, which, especially the former, are, in some respects, the least specialized Ratites, may be the recent representatives of a parent stock, from which, on the east, arose the *Dimornithidæ* and *Apteryx*; while, on the west, the ancestors of *Struthio* and *Æpyornis* branched off, the former making their way into Africa through India and Arabia, the latter reaching Madagascar by way of Southern India.

The Manus of Archaeopteryx.—In ‘Natural Science’ for October last (vol. iii. p. 275) Dr. C. H. Hurst announces an important discovery, if true. After drawing attention to several inaccuracies in Steinmann and Döderlein’s figures of the Berlin specimen of the *Archæopteryx*, he points out that the three-clawed digits so well exhibited in that specimen do not (and, in his opinion, never did) support the primaries, which, therefore, must have been carried by digits iv. and v. (or one of them). The result, if this view were accepted, would follow that the two large digits of the ordinary bird’s-wing are digits iv. and v., and that the “*ala spuria*” is a remnant of one or more of the other digits of the pentadactyle limb. This being granted, birds may have had a much closer connection with Pterodactyles than has hitherto been suspected.

Dr. Hurst’s conclusions rest mainly upon the gratuitous assumption that the large digit or digits in the Berlin *Archæopteryx*, which formerly supported the primaries, lie buried in the slab beneath. Until this can be definitely proved by actual evidence, we must take leave to doubt the fact, and to prefer the generally accepted theory of the elements of the bird’s-wing to the revolutionary views of Dr. Hurst.

Obituary: DR. EMIN PASHA, DR. GEORGE BENNETT, and PASTOR BALDAMUS.—There can be now little doubt of the death of our Foreign Member, Dr. Edward Schnitzler, com-

monly called Emin Pasha. We will therefore say a few words on this remarkable man, who was born at Oppeln, in Silesia, on March 28, 1840, and is believed to have been killed by the Arabs at Seyd Bin Abed's Station, on one of the branches of the Congo, in the Manyema country, some time in the early part of last year. It is not necessary in this Journal to discuss the political life of Emin; its details are well known to history. He was, as has now been plainly shown by the latter part of his life, although possessed of many excellent qualities, no such great hero morally, or, perhaps, even intellectually, as was once supposed. But he was a first-rate collector and naturalist, and must, as such, attract our sympathies. That he had other good points is evident from the value set upon him by Gordon, who made him a Bey in 1878, and appointed him Governor of the Equatorial Province of Egypt. Gordon, whose judgment in such a case no one will dispute, was a fast friend to Emin and highly prized his good qualities, especially his precise and methodical habits and his ready obedience to orders.

As a zoological collector, Emin was, no doubt, in the first class, as every naturalist who has handled some of his beautifully prepared and labelled skins of birds and mammals would at once testify. That he must also take high rank as an observer of nature will be at once allowed by any one who has studied his journals or has been in correspondence with him, as it has been our good fortune to be. Our excellent friend Dr. G. Hartlaub, of Bremen, one of the most experienced veterans of our science, speaks thus of Emin's qualities in these respects:—

“The amount of work which Emin Pasha has performed in making zoological collections, observations, and notes is astonishing in the highest degree. It could only have been executed by a man whose heart was aglow with the pure fire of scientific instinct, with enthusiastic, absolutely unselfish love of nature, and with an irresistible impulse to add to the knowledge of her treasures to the full extent of his powers. Emin was able to turn this impulse into action, notwithstanding the pressure of difficult surrounding cir-

cumstances, and the many and varied duties which his high position compelled him to fulfil.” *

To show Emin’s grateful appreciation of a slight service and his style of correspondence, we may venture to add here a copy of a letter addressed by him to the Editor of this Journal from Wadelai in 1887. The original is well and plainly written in a very minute hand, and is, of itself, quite sufficient to prove the extraordinary abilities of a man who had “learned his English in Central Africa.”

“Wadelai, the 13th April, 1887.

“DEAR SIR,

“By Mr. Mackay’s kindness I had, a few days ago, a copy of ‘the Times,’ in which your letter, dated 29th October, 1886, in my behalf, appeared.

“Although, as a working naturalist, I had always the greatest admiration for you, the master of our science, you have now laid me under such personal obligations that I fear I never may be able to acknowledge them sufficiently. Unknown to you, lost and forgotten even by my few friends, I had no reason whatever to believe me remembered by you. So greater likewise my gratitude for your generous interference, so hearty my thankfulness for your disinterested advocacy of my and my people’s relief. I, nevertheless, believe it my duty to tell you plainly that I am not at all willing to leave my men. They stood to me in hard and bloody times, so it would become me very ill to leave them now that a dawn of hope appears. I did not work twelve long years here for running away as soon as an occasion offers itself. What Gordon trusted to me, land and people, I shall hold them to the last. Let England put matters right in Uganda, and open us a sure road—that is all we want for the moment.

“That, besides my official work, I always shall do my best for observing and collecting, I need not tell you. A lot of natural-history collections, amongst them many new species

* See the preface to ‘Emin Pasha in Central Africa’ (London, 1888), and the German edition, ‘Emin Pascha’ (Leipsic), of the same date.

of birds and mammalia collected in the Monbuttu country, I forwarded in November past to the British Museum. I had intended to hand over the birds to the Zoological Society, but as I can only pay the transport from here to Zanzibar, and did not know if the Society would consent to cover the further transport to England, I refrained from doing it. If, however, you wish for specimens from here, I am quite ready to assist you and your friends by forwarding whatever I am able to get, except such specimens as require, for preservation, spirits.

“The geographical and zoological exploration of Albert Lake, which I began some time ago, has given me many interesting facts, particularly for zoo-geography. Unluckily my literary resources are very scarce, and I do not know if Dr. Hartlaub, my valued friend, is yet alive. If the Zoological Society desires to receive some contributions from one who, as an outsider, has no right to intrude, I shall be happy to embody my notes and various items in a paper or two and send them on the first occasion. I must, however, request your charity for my uncouth English: what I know of it I learned here, and Central Africa is certainly a strange school for European languages.

“My letter has become already too long, and it would be a shame to trespass further on your valuable time. So let me once yet repeat to you my cordial thanks for your great kindness and generous sympathy. I shall be proud if you will honour me with some few words from time to time.

“Oblige me by acquainting me with any particular wishes of yours and your friends I may be able to satisfy, and believe me, dear Sir,

“Yours most faithfully,

DR. EMIN BEY.”

Emin's name is commemorated in ornithology by the genus *Eminia* of Hartlaub (P. Z. S. 1880, p. 625), belonging to the Malurine group, and by several species dedicated to him:—

Sorella emini-bey, Hartl. J. f. O. 1880, pp. 211, 325.

Sorella emini, Hartl. Abh. naturw. Ver. Bremen, vii. p. 123 (1881).

Sycobrotus emini, Hartl. Ornith. Centralbl. 1882, p. 92.

Indicator emini, Shelley, P. Z. S. 1888, p. 43 (pl. iii.).

Salpornis emini, Hartl. P. Z. S. 1884, p. 415 (pl. xxxvii.).

Hirundo emini, Reichenow, J. f. O. 1892, p. 30.

Cisticola emini, Reichenow, J. f. O. 1892, p. 56.

There are two collections of Emin Pasha's beautifully prepared bird-skins in the British Museum. The first was that received from Wadelai in 1887, and described by Capt. Shelley in 1888 (P. Z. S. 1888, p. 17). It consists of 342 specimens, of which 4 were described as types of new species. The second is a small series of 28 specimens from Mtoni*, collected by Bohndorf, received from Emin in July 1890.

We subjoin a list of the principal papers relating to Emin Pasha's ornithological work:—

On some new Birds discovered and collected by Dr. Emin Bey in Central Africa, between 5° and 2° N. lat., and 31° and 32° E. long. By Dr. G. Hartlaub. P. Z. S. 1880, p. 624, pl. lx.

Ueber einige neue von Dr. Emin Bey, Gouverneur der Aequatorial-Provinzen Aegyptens, um Lado, Central-Afrika, entdeckte Vögel. Von Dr. G. Hartlaub. J. f. O. 1880, p. 210.

Beitrag zur Ornithologie der östlich-äquatorialen Gebiete Africa's von Dr. G. Hartlaub. Abh. naturw. Ver. Bremen, vii. p. 83.

Ueber eine Sendung von Vögeln aus Central-Afrika. Von August von Pelzeln. Verh. d. k.-k. zool.-bot. Gesell. Wien, 1881, p. 141.

Ueber Dr. Emin Bey's zweite Sendung von Vögeln aus Central-Afrika. Von August von Pelzeln. Verh. d. k. k. zool.-bot. Gesell. Wien, 1881, p. 605.

Diagnosen neuer Arten aus Centralafrika, gesammelt von

* [This "Mtoni" is probably, as Mr. Ravenstein kindly informs us, a village on the Kingani River, about five miles inland from Bagomoyo, the port of German East Africa. The term merely means "At-the-river."—ED.]

- Dr. Emin Bey. Von Dr. G. Hartlaub. Ornith. Centralbl. 1882, p. 91.
- Ueber einige neue Vögel aus dem oberen Nilgebiete. Von Dr. G. Hartlaub. J. f. O. 1882, p. 321.
- Zweiter Beitrag zur Ornithologie der östlich-äquatorialen Gebiete Africa's von Dr. G. Hartlaub, nach Sammlungen und Noten von Dr. Emin Bey. Abh. naturw. Ver. Bremen, viii. p. 183 (1883).
- Ueber Dr. Emin Bey's dritte Sendung von Vögeln aus Central-Afrika. Von August von Pelzeln. Verh. d. k.-k. zool.-bot. Gesell. Wien, 1882, p. 499.
- Diagnosen einiger neuer Vögel aus dem östlich-äquatorialen Africa. Von Dr. G. Hartlaub. J. f. O. 1883, p. 425.
- Dritter Beitrag zur Ornithologie der östlich-äquatorialen Gebiete Afrikas. Von Dr. G. Hartlaub. Zool. Jahrb. Jena, Bd. ii. p. 303.
- On a new Species of *Salpornis* from Eastern Equatorial Africa. By Dr. G. Hartlaub. P. Z. S. 1884, p. 415, pl. xxxvii.
- Ueber einige neue von Dr. Emin Pasha im inneren Ostafrika entdeckte Arten. Von Dr. G. Hartlaub. J. f. O. 1890, p. 150.

GEORGE BENNETT, M.D., F.R.C.S., F.L.S., F.Z.S., the genial physician and naturalist of Sydney, has been well known to us in the mother-country for many years, as taking very great interest in the progress of our science, and as being always ready to assist workers in England with specimens and information. He was born at Plymouth in 1804, and died at his residence, 167 William Street, Sydney, on the 29th of September last. Dr. Bennett first visited Australia in 1830, and on returning home published, in 1834, his 'Wanderings in New South Wales, Singapore, and China.' In 1836 he went back to Sydney, and, having settled there as a medical practitioner, attained great success in his profession. In 1860 he published his 'Gatherings of a Naturalist in Australia.' Besides these works Dr. Bennett wrote many other memoirs and papers, and supplied his friends, Owen, Gould, and other naturalists, with many valuable notes and

specimens. Amongst these were the first examples of the Mooruk, or Cassowary, of New Britain, which was named after him by Gould *Casuarus bennetti* (see P. Z. S. 1857, p. 269). Dr. Bennett's name is also commemorated in ornithology by *Rectes bennetti*, Schl. (P. Z. S. 1873, p. 692), from New Guinea, and *Ægotheles bennetti*, Salv. et d'Alb., from the same country.

The well-known German ornithologist AUGUST KARL EDUARD BALDAMUS was born at Giersleben, in Anhalt, on the 18th of April, 1812, and died at Wernigerode, in Prussia, on the 29th of October last. Baldamus was by profession a schoolmaster and Lutheran clergyman, but was devoted from his earliest youth to the study of birds and their eggs, and made many journeys into Hungary, Servia, Bulgaria, and other countries of Southern Europe in quest of them. In 1840 he founded the ornithological journal 'Naumannia,' and carried it on for eighteen years. In 1860 he prepared, in conjunction with Dr. J. H. Blasius, a supplement to Naumann's 'Vögel Deutschlands.' Baldamus was also much interested in poultry, and in 1876 published his 'Illustriertes Handbuch der Fiederviehzucht,' and in 1882 his 'Hausgeflügel.'

In 1849 Baldamus founded the 'Deutsche ornithologische Gesellschaft,' and was its first secretary. From 1860 to 1867 he was associated with Dr. Cabanis in the editorship of the 'Journal für Ornithologie.' His last ornithological work was a summary of his knowledge of the Cuckoo and its allies ('Das Leben der europäischen Kuckucke'), a subject in which he was for many years a leading authority, and was always specially interested. This essay was published at Berlin in 1892, and will be found noticed in 'The Ibis' for that year (p. 559).

THE IBIS.

SIXTH SERIES.

No. XXII. APRIL 1894.

XIII.—*On the Birds of Uruguay.* By O. V. APLIN. *With an Introduction and Notes by P. L. SCLATER.*

(Plate V.)

- I. Introduction (by P. L. SCLATER), p. 149.
- II. Narrative of the Journey, p. 151.
- III. List of Birds, with Field-notes, p. 161.
- IV. Explanation of Plate V., p. 215.

I. *Introduction.* (By P. L. S.)

WHEN I was working, in conjunction with Mr. W. H. Hudson, on the preparation of 'Argentine Ornithology,' I found that there was great deficiency in exact knowledge of the birds of Uruguay, although the Ornis of this part of South America might be presumed to be nearly identical with that of the adjoining Republic of La Plata. With a view, however, of becoming better acquainted with this subject, in the beginning of 1892 I made a successful application to the Royal Society for a sum of £100 out of the Government Grant for scientific purposes, to enable me to send a collector out to Uruguay, for whom a friend, at that time resident in the country, had offered free quarters on his estancia. Out of several applicants, whom a notice of what was in contemplation, published in 'Nature,'* produced, I had no difficulty

* See 'Nature,' vol. xlv. pp. 174 and 269.

in selecting Mr. O. V. Aplin, author of the 'Birds of Oxfordshire,' and a well-known field-naturalist, as fully qualified for the post. Mr. Aplin, in order to arrive in Uruguay at the best time of year, deferred his departure from England until the following September. As he has given us a full account of his expedition and its results in the present paper, I need say little more upon this part of the subject; but I will just mention, shortly, what are the previous authorities on the birds of Uruguay with which I am acquainted. These are as follows:—

1. DARWIN, who, during the celebrated voyage of the 'Beagle' (1832), made a collection of birds at Maldonado, Montevideo, and other localities on the shores of Uruguay, most of which are now in the British Museum. Darwin's field-notes were published in the Bird-volume of the Zoology of the Voyage of the 'Beagle.'

2. Mr. JOHN J. DALGLEISH, who has published, in the 'Proceedings of the Royal Physical Society of Edinburgh' (vols. vi. & viii.), two articles on collections of birds and eggs sent to him by a correspondent in Central Uruguay, accompanied by interesting field-notes.

3. Mr. ALAN PEEL, from whom a small collection of skins made at Paysandu and at other localities on the western borders of Uruguay was received by the British Museum in 1870.

4. Mr. MACNAUGHT CAMPBELL, F.Z.S., who travelled in Uruguay and the Argentine Republic in 1871, and made a collection of birds, many of which are now in the Kelvin-grove Museum at Glasgow, while a few of his duplicates are in my possession.

As regards Mr. Aplin's collection I need only say that he brought home altogether 216 specimens, referable to 93 species. Besides these, other unmistakable species, observed in life or obtained, raise the total number in Mr. Aplin's list to 139. Of these 139 species, only one land-bird, namely, *Conurus leucophthalmus* (no. 78), has not been mentioned in 'Argentine Ornithology' as found in the adjoining Republic. Besides this bird, however, three Petrels (*Daption capensis*, *Puffinus griseus*, and *Pelagodroma marina*)

are recorded by Mr. Aplin as having been observed on the coast of Uruguay on his voyage out and home.

II. *Narrative of the Journey.*

I LEFT England on the 1st (or, rather, early on the morning of the 2nd) September, 1892, and after an unusually long voyage arrived off Montevideo on the 2nd October. Notwithstanding the facts that thirty days had elapsed since we left the cholera-infected (?) river Thames, and that before entering Rio de Janeiro harbour we had obtained, at the cost of many milreis and much endurance of grievous chemical smells, a certificate under the Health Convention supposed then to exist between Brazil, Argentina, and the Banda Oriental, to the effect that we had been duly disinfected at Ilha Grande, which should have given us free pratique at all ports in the River Plate, we were calmly informed at Flores Island that we must do eight days' quarantine. As the only other passenger for Montevideo on board was going on to Buenos Ayres, I should have had (if I had left the ship and gone into the Lazaréto on Flores Island), in addition to the ordinary discomforts, a certain amount of solitary confinement on that desolate rock. So I went on to Buenos Ayres with the ship, where, on account of our perfectly healthy condition, we were allowed to do our quarantine on board in the Roads. Off Montevideo, where we stayed nearly two days, were many Brazilian Cormorants and examples of three species of Gull, viz. the Dominican, Spot-winged, and Grey-capped. There was little in the way of ornithology to interest me while we lay in the River Plate.

"Tinamu for dinner" appears to be one of the most important entries in my journal during those rather dreary days! The Captain reported a scarlet bird with black wings (doubtless *Pyrocephalus rubineus*) on board on the 4th October; several dragon-flies were about the ship at the same time, also moths and swarms of flies and small beetles. The river is still very wide where we lay, about 14 miles below Buenos Ayres. On one side of us Quilmes was seven miles distant, while the opposite coast of Colonia was

out of sight, some 22 miles off. A De Filippi's Marsh Starling (*Trupialis defilippii*) came on board on the morning of the 5th, and a Cayenne Lapwing (*Vanellus cayennensis*) flew over, calling, but out of sight. The next day three small birds were about the ship; one (a species of Tyrant?) was busy catching flies. The wind was north, which would of course be full aft for birds crossing the Rio de la Plata on the spring migration, and this probably checked their passage. On the 9th a Great Grebe (*Echmophorus major*) passed close alongside. There were many Cormorants in the new docks at Buenos Ayres. Some were *Phalacrocorax brasiliensis*, but others were smaller and were, I believe, *P. penicillatus*. I saw specimens of the latter in the Museum at Buenos Ayres, and the official who showed me round said it was one of the species inhabiting the Darcena; it was the more common of the two.

On the afternoon of the 12th October, six weeks all but a day after leaving England, I went on board the Platense Flotilla Company's paddle steamer 'San Martin,' and woke up at half-past six the next morning in the Bay of Montevideo—at least a fortnight later than I had intended to be.

Here I found that the arrangements for my residence in the Departamento de Minas had broken down. Thanks, however, to the kind offices of H.B.M.'s Minister, Mr. E. M. Satow (to whom I had letters of introduction) and Mr. Charles J. F. Davie, British Vice-Consul (who during my stay in the country did everything to render it successful and pleasant), I was introduced to Señor Don Felix Buxareo, who with true South American hospitality most kindly invited me to make my headquarters upon one of his "estancias"—that of Santa Elena, on the Monzon River, Departamento de Soriano. I take this opportunity of once more thanking Don Felix for all his kindness and hospitality, qualities for which the inhabitants of the Banda Oriental have long been famous. Sta. Elena is (or rather was until just recently) under the management of my friend Mr. T. W. Burgess, whose large experience of this and many other countries, as well as the warm interest which he took in my pursuits, furthering

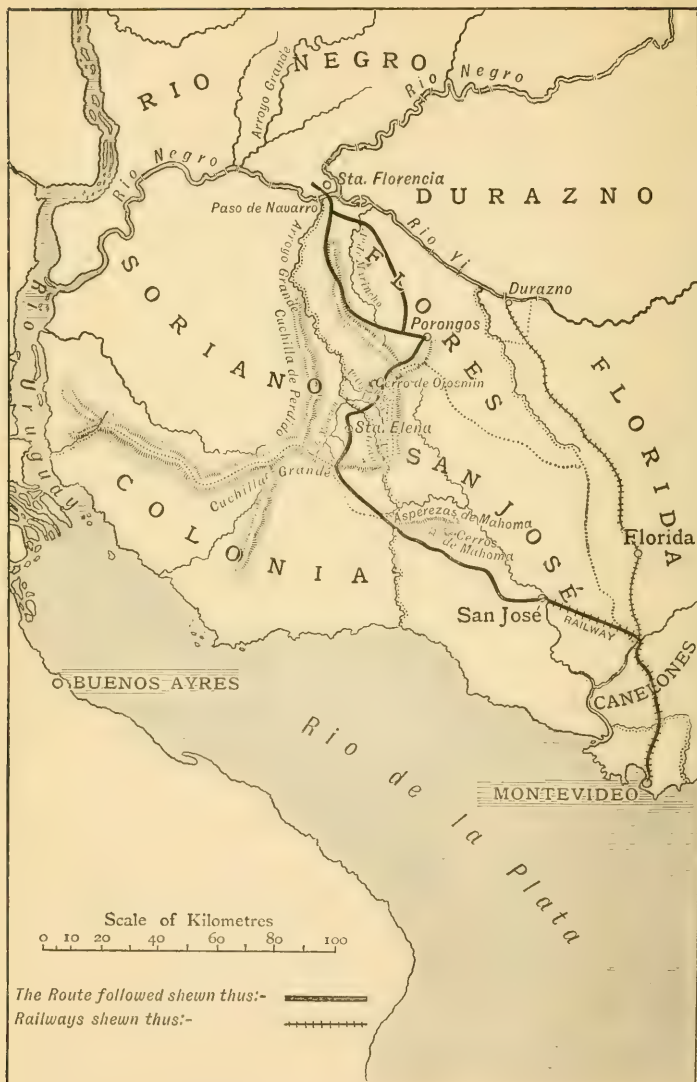
them in every way in his power, tended so much to render my residence there so pleasant and to facilitate my collecting work. Mr. Burgess is well acquainted with many of the birds of Uruguay, and I obtained a good deal of useful and interesting information from him.

I left Montevideo for the "camp" by train for San José on the evening of the 18th, and next morning started before daylight by the diligéncia, which carries the post and passengers, for Sta. Elena—about 22 leagues distant, where I arrived late in the afternoon, the road-track being in good condition (neither deep in dust nor in mud) and passing close to the estancia house.

The land or "camp" belonging to Sta. Elena amounts roughly to 27,000 acres. The camp is in a triangle formed by two rivers, the Arroyo Grande and its tributary the Monzon. It may be taken as typical of the whole of that part of the country, consisting of rolling prairie or undulating ground covered with short pasture grass, with in places some growth of giant thistle and cardoon*. Scattered over the camp are groups of granite boulders, sometimes hardly showing above ground, at others piled up or towering singly to a height of 12 or 15, and even up to 20 feet, and varying in extent from a few yards in diameter to an acre or more in extent. Among these rocks grow scrubby examples of the (usually) thorny small trees or shrubs, tala (*Celtis tala*), moyé (*Moye spinosa*), "curupi," "sombre del toro" (a kind of holly), and other similar plants. The tala and moyé have much the growth and attain to about the same size as the hawthorn, but I never saw one with a trunk approaching in size those of the old thorns we sometimes see in parks and old pastures. Apart from these, the "monte" along the rivers, and the plantations round the houses, there are no trees or shrubs to be seen.

Some of the higher hills in sight of which I passed in my

* Partly on account of the great drought which prevailed during the time that I was in the country, and which had then lasted about two years, there was very little growth of cardoon and still less of giant thistle in 1892-3.



Walker & Bontall sc.

MAP OF PART OF URUGUAY.

journey from San José were covered with these grey rocks and boulders, lying about in the greatest confusion, and presented a desolate aspect. Especially noticeable were the Cerros de Mahoma.

In the bottoms between the undulations of the land a cañada (or small watercourse of varying width) usually exists. These were either permanent with a natural stream, or merely served to carry off rain-water, the latter being frequently dry except for small water-holes or lagunas here and there. Some had high, steep, earthy banks; others were wider, boggy, and much grown up, with marshy edges in places and in others forming larger lagunas.

In these bottoms, and along the level ground on the banks of the rivers, were considerable beds of a tall hassock grass ("paja mansa"), called "pajonales."

In addition to the two rivers bordering two sides of the triangular camp, another smaller one, known by the common name of the Saúce (Spanish for a willow), flowed through the southern part of the camp and joined the Arroyo Grande. The only natural woodland found in this part of Uruguay consists of a more or less broad belt of trees or shrubs on the river-banks, known as "monte." Along the whole course of the Arroyo Grande here there is a belt of monte, and the lower part of the Monzon is similarly clothed; just before the rivers join in the apex of the triangle (or "rincón," as it called) the montes become confluent. The monte here consists for the most part of low thorny trees, chiefly tala and moyé. There are also many willows (saúce) and in one or two places a few Lombardy poplars (planted, as are many of the willows), and in one spot some peaches ("durazno"). Other trees on the banks, but less abundant, are the "ñangapirí," "matajo," "quebracha" (*Quebrachia*, sp.), "guayaba," &c. The "sarandi" is found commonly forming low thickets at the water's edge and in the shallow water and mud. What little monte is found along the Saúce consists almost entirely of this, with a few willows, tala, moyé, &c. In many places, close to the rivers, and sometimes in their beds, there are patches of a very tall paja (sometimes as

high as a man's head on horseback) with sharp cutting edges; this is the "paja brava"; and in the rincón of the two rivers and other similar places in the district, which are liable to flood, there is a considerable amount of this and "paja mansa," forming impenetrable cover.

At every rancho and nearly every "puesto" you see a few spreading ombú trees (*Phytolacca dioica*) and probably a few peaches and gums (*Eucalyptus globulus*); while the larger estancias have usually, in addition to peach, orange, fig, and other fruit-trees, vines, hedges of membrillo (a kind of quince), cactus, aloe *, ciña-ciña acacia, ñapinday (*Acacia bonariensis*), &c., considerable plantations of gums (almost entirely the blue gum, *Eucalyptus globulus*), acacias, poplars, wattles, &c. The quinta at Sta. Elena covers about seven acres, and contains a great variety of imported trees and shrubs, including some long avenues of poplars, a fine double row of fan-palms, and another of a conifer (*Pinus insignis*)—a quite new kind of tree to the small birds, but greatly to their taste—young oaks, olives, &c.

As may be imagined, some of these quintas swarm with birds, and they have probably encouraged the increase of some species. On first arriving at Sta. Elena I was greatly struck with the variety, conspicuous colouring, and familiarity of the birds. Doves, Woodpeckers, Black-headed Siskins, Cardinal Finches, Mocking-birds, Cow-birds, Guira Cuckoos, Purple, Tree-, and White-rumped Swallows, Scissor-birds, Venteveo Tyrants, Chingolo Song-Sparrows, Yellow House-Sparrows, Oven-birds, and Firewood-gatherers were perhaps the most noticeable, but we had also the brilliant Scarlet Tyrant, Blue-and-Yellow Tanagers, Humming-birds, &c. The morning and evening concerts were very lively, but I often wished the Oven-birds †, with their ear-piercing dis-

* Aloe hedges are common near Montevideo, but rare in the camp where I was, and cactus hedges are being destroyed.

† Some people, I believe, like this bird. To a field-ornithologist who wishes to gain some knowledge of the notes and songs of other birds, it soon becomes detestable and detested. It is very common, and wherever among the trees you see any other birds you are almost certain to find the "Hornéro." It is not the least bit shy, and seldom fails to mob a

cordant notes, at the other end of the world, so that in the early mornings (often fresh and exhilarating beyond description in that dry crystal air, still cool in the level rays of the brilliant southern sun) I could listen more easily to the flute-like whistles of the "Cardinal," short sweet strains of the "Chingolo," thrush-like "Calandria," and rich warbling song of the House-Wren. The fact is that, from the scarcity of suitable spots, the birds are crowded together. Every little patch of thorny trees holds its colony of birds; almost every patch of shrub-grown rocks its Hornéros, its Mocking-birds, its Wrens, and probably other birds too; but in summer you may ride leagues over the bare camp and see only a pair of Cachila Pipits at intervals, noisy Téri-Téru, a Vulture or Eagle soaring overhead, or a Carancho flapping along; near a zanja you will see the Minéra, and perhaps the little blue-and-white Bank-Swallow; in the low paga or green "mio-mio" you will see Tinamu, and if you pass through a patch of cardoon you may chance on a few pairs of Red-breasted Starlings (*Trupialis defilippii*), a pair of Nacunda Nightjars, or a party of Bartram's Sandpipers, "wintering," like yourself, in the summer of the far south.

The Arroyo Grande may roughly be said to be (at Sta. Elena) about the width of the Thames at Oxford, but, unlike that locked river, it is very variable. In places it is quite shallow, and the monte in these parts extends over its whole bed, interrupted only by numerous tortuous channels where the ordinary flow of the river passes. In flood-time the whole monte in these places is under water. When I arrived in the country it had been suffering from short rainfall for over two years, and during the eight months of spring, summer, and autumn that I remained in Uruguay the "seca" continued almost without interruption. Soon after I arrived the Arroyo Grande was "cut" (*i. e.* became dry in places),

human being—coming from a little distance even to sit within a few feet of the unfortunate naturalist's head, and to do its best to prevent his hearing any other bird. The Hornéro reminded me strongly of a Seven Dials' lady giving her husband a piece of her mind. The ordinary ringing notes with which it salutes its mate are, however, far from unpleasant.

and these increased as the summer wore on until it was possible to cross the Arroyo Grande, Monzon, and smaller rivers dryfooted in many places which, when I came, had contained a foot or two of water, but which had become dry and dusty. But there were also at intervals large, deep lagunas which always held water—these extended without interruption for some distance in the lower reaches of the Arroyo Grande bordering the Sta. Elena camp. However, many small lagunas dried up which had not been known to fail before. This state of things continued until 27th March, when, after a spell of 38 days with hardly a drop of rain (certainly none to have the least effect), $1\frac{3}{4}$ inches fell in $1\frac{1}{2}$ hours, followed by a drizzle for two or three more. This, partly on account of the dry, hard state of the camp (allowing the water to run off it straight into the cañadas and so into the river), set the Saúce running for the first time for a year—indeed put it in flood, and put the Arroyo Grande and Monzon in flood also, rendering them impassable for some hours at the usual “passes” or fords; the swing wire fences where the post road-track crosses the Saúce were carried away (a common occurrence in some winters) for the first time for nearly three years. After this, until I left, the rivers, though fallen very low again, were running and the cañadas filled up: then for the first time I saw any number of water-birds.

Roughly speaking, this was my collecting-ground. I paid occasional visits to the neighbouring estancias of Las Coronas and Santa Adelaida—the one west of the Monzon, the other across the Arroyo Grande, to the N.E., and running northwards into the rincón of that river and the Ojosmin. I also spent several weeks at different times at the hospitable estancia of Mr. J. E. Emerson, Santa Ana, situated on the east side of the Arroyo Grande, in the Departamento de Flores, on a small river called the Saúce, but marked on a map as the Talita.

Standing upon the high ground at the Estancia Santa Elena, our view to southward was bounded by the ridge of the long slope of the Cuchilla Grande, an easterly continuation of the Cuchilla de San Salvador, forming the

watershed between Soriano and Colonia. The rivers and streams north of this are either tributaries of the Rio Negro, or, like the Arroyo de San Salvador, flow direct into the Rio Uruguay; while those south of it fall directly into the Rio de la Plata. On the west another long line of Cuchilla, the Cuchilla de Perdido, formed our horizon. North-east of us we had the pyramidal Cerro de Ojosmin; and the view on the north and east terminated in high ground, part of or a continuation of the Cuchilla de Marincho—the valleys of the rivers being completely shut in and unseen, a common feature in this “rolling” country.

In the early part of December I started with my friend Señor Don Juan La Dieu on a visit to the Rio Negro. We arrived on the evening of the second day (by way of the little town of Porongos) at the Estancia Santa Florencia, on the northern bank of the Rio Negro, which we crossed at the Paso de Navarro. Returning to Sta. Ana we made a three days’ ride of it; turning eastward within a couple of leagues of the Pass we crossed the Marincho at once and stayed a night at the beautiful estancia of a German gentleman. At the Rio Negro we were the guests of Mr. W. J. Sloane, from whom and his neighbour Mr. W. P. Steer I received every kindness and assistance in my collecting.

Sta. Florencia is situated on high ground, overlooking the Rio Negro (which just there makes a considerable bend, almost enclosing the camp on three sides), and is not more than two or three miles from the monte. The estancia is nearly opposite the point at which the Arroyo Grande flows into the Rio Negro; the Rio Yi flows in still further to the east. The monte here is very broad, especially in some places, and in parts the growth is so thick that it is almost impossible to get about, except along narrow paths made by cattle, or worn out by torrents in times of flood. The trees are much taller than in the vicinity of Sta. Elena, and include many species not found growing wild in that district. For instance, there are the vidaraó and the blancilla—two of the tallest trees. On the river-bank there is often a thick growth of matajojo, the tough stems of which, springing up or lying about in all

directions, make it difficult to get through. The monte is composed chiefly of these and tala, quebracha, moyé, saúce, corinilla (*Scutia buxifolia*), guayaba, ñandubay (*Prosopis nandubay*), ñangapirí, &c. On the outskirts are myrtles of various kinds, and three species of thorny acacia, viz. the aroma, the ñapinday or "uñas del gato" (*Acacia bonariensis*), and the "espinilla" or ciña-ciña, while in swampy places the beautiful ceibo (or caybo) (*Erythrina crista-galli*), with large hanging clusters of indian-red flowers, is a striking feature, the flowers having an attraction for Humming-birds. Several of the trees yield berries—frequently aromatic—and there is an abundance of creepers, some with beautiful flowers, and others with thick rope-like stems reminding one of the lianas of the tropics (and perhaps really the same), which increase the difficulty of progression. The sarsaparilla is a noticeable creeper. The monte is in fact subtropical, and yields a tree-fern, a curious climbing cactus, a palm, and an arboreal orchis (an *Oncidium*, I think). Impenetrable beds of "paja brava" occur in places on the landward side of the monte.

I left the camp for "town" on the 28th May, and reached Montevideo the next day. After a few days, with much reluctance, I bade farewell to that delightful and hospitable city and my many friends in it, and sailed for Europe.

There is a Museum containing a carefully arranged and increasing natural-history collection in Montevideo, and I have to thank the director and curadór, Professor Archavaleta, as well as his able Ayudante de Zoología, Señor Don Juan H. Figueira, for their courtesies in showing me the collections.

I have added in this paper to the list of birds that I obtained or observed the names of those species (21 in number) local specimens of which are preserved in the museum, but which I did not meet with; they are marked with an asterisk, and are not included in the enumeration of species.

The nomenclature and arrangement of this list, unless the contrary be stated, are those of Messrs. Sclater and Hudson's 'Argentine Ornithology.'

III. *List of Birds, with Field-notes.*1. *Turdus leucomelas*. Dusky Thrush.

I saw one in the quinta at Sta. Elena on the 22nd October, just after my arrival, and before my luggage, with my cartridges, had come up the country, but did not meet with the adult again in that neighbourhood; however, on the 22nd February, I shot a Thrush in nest-dress in thin monte on the coast of the Monzon, which Mr. Sclater believes to be of this species. In the monte of the Rio Negro I found the Dusky Thrush rather common, but excessively shy and retiring, and very difficult to see—betraying its presence usually only by its low, sweet alarm-note, like that of our Song-Thrush when disturbed among the fruit-trees. They were not at that time (mid-December) in song.

2. *Turdus rufiventris*. Red-bellied Thrush.

I found this fine Thrush common in the monte of the Rio Negro in December. They were usually to be heard singing in the thick growth of mataojo on the river-bank and concealed from view on the land side. At other times they conceal themselves in thicker parts. I noticed one feeding on berries of the moyé. The song of this bird is to my mind by far the sweetest of any I heard in South America. It is delivered after the fashion of our Song-Thrush, the notes being less varied than those of that bird, while some of them are even sweeter and richer. I syllabled one to sing—“*deur, deur, deur, sweet, sweet, ut-ich, ut-ich.*” It was not until March that I met with it in the valley of the Arroyo Grande, where I found one haunting a thicket (close to water) of guayaba and ñangapirí. I was attracted by the unmistakable low alarm-note of a Thrush, but the bird was so shy that I could not get a shot at it. A few days after I returned to the spot and secured it—a male, its stomach full of tala berries. A male in spring-dress had the bill yellowish horn; inside of mouth ochre; eyelids orange; feet pale brown.

This bird is known as the “Zorzal,” and an Englishman who had been in many parts of the South American con-

inent told me that it was everywhere celebrated for its song. The late E. W. White, in a note quoted in 'Argentine Ornithology,' applies this name to *T. fuscater*; but Señor Don Luis Cincinato Bollo, in a little work containing descriptions of the birds indigenous to the 'Repúblicas Oriental y Argentina,' says: "Se conocen dos zorzales—el zorzal de pecho colorado y el zorzal de pecho blanco,"—*i. e.* this and the preceding species.

3. MIMUS MODULATOR. Calandria Mocking-bird.

The Calandria is a common resident, especially about houses where there are any trees. Every patch of shrub-grown boulder rocks has its one or more pairs, and they are also found in the more open parts of the monte. They rear, or try to rear, two or perhaps three broods in the year, as may be gathered from the following notes:—October 22nd: nest in an olive-tree, cup-shaped; built of sticks and wool; lined with long horse-hair and rootlets; contained one egg and five eggs of the Toldo (*Molothrus bonariensis*). October 24th: nest with one egg and two eggs of the Toldo. October 28th: young on the wing. October 31st: nest with one egg and two Toldo's eggs. November 9th: nest in tala bush, built of twigs and roots and a few bits of wool; lined with rootlets; contained four fresh eggs. November 15th: nest with two eggs slightly sat on. At that date the birds were singing well. January 8th: nest containing two eggs and one Toldo's. The birds were singing again then after a slight break. The song of this bird is pleasing, but rather poor. The usual strain is—"chow, chow, chow, chow!" (leisurely), "chi, chi, chi, chi!" (highly pitched and *fortissimo*). Individual birds differ a little sometimes. I heard one or two possessing a fine musical whistling note, and another, with a variation of the first part of the song into "shuk, shuk, shuk!" had a very high note like one of the lively notes of the Nightingale. But these variations are quite exceptional, and I should not have attributed mocking powers to the Calandria, which, however, possesses a considerable repertory of "swear-words" for use when its

nest is approached—a loud angry “*gik*” is the most common.

4. *POLIOPTILA DUMICOLA*. Bush-loving Fly-snapper.

Not uncommon in certain parts of the monte, chiefly among moyé, tala, holly, and other bushes and trees. In a moyé at a spot frequented by a family party, from which I shot a male and a young bird on 6th February, I found a nest which I believe belonged to them; it was nearly round, with an irregular rather large hole in one side, and was formed of moss and a little wool. I cannot say whether these birds left in autumn, but I met with them as late as 17th March. These little birds have much the same habits as the Long-tailed Tit. They go in family parties, creeping and flitting about the thorny trees and flying one after another to the next tree, uttering a note very like one of those of the above-named Tit; another note resembles the feeding-call of the Blue Titmouse.

5. *TROGLODYTES FURVUS*. Brown House-Wren.

A very common resident, met with alike about houses and buildings, among the masses of huge boulder rocks, and here and there in the monte. It has just the manners and customs of the British Wren; is just as active, as noisy, and as ready to pour out the vials of its wrath. But it is a more beautiful bird, having a lovely warm vinous flush on the delicate pale brown of the underparts; it is also more elegant in appearance and does not erect its tail so much; finally, it has a much better song. This is sweet, beginning with a few grating notes and then going off into a run of remarkably sweet, full notes—the latter part reminding one strongly of a good Warbler’s song. The local name is Ratonéro.

6. *ANTHUS CORRENDERA*. Cachila Pipit. (Plate V. fig. 1, egg.)

This is one of the commonest birds, and, from its habit of frequenting the barest and most open parts of the campo, is known to some English residents as the “Camp-bird.” They prefer the high-lying parts of the camp and breed in

the open. The nest is usually in some slight depression—a hoof-mark for instance—and is not infrequently discovered by your horse nearly putting his foot on it. In this way a nest formed of soft grass and lined with fine grass was found in a hoof-mark on November 13th. It contained four fresh eggs; the eggs are white, with a faint bluish shade, sparingly speckled all over with grey and pale brown, mostly so near the large end in some cases. In one egg at the large end are two or three hair-like marks, nearly black. Another nest, on the 17th, with one egg, was placed against the stems of a low plant of *mio-mio*—that poisonous deep green plant which always flourishes in times of drought, when everything else is withering up. This nest had an addition to the lining in the shape of a little short cow-hair. This bird, like all the others of this family with which I am acquainted, has peculiar singing-habits. In October it was in full song; mounting in the air in true Pipit fashion, it descended to the ground in a slanting direction, and either settled or mounted again when within a foot or so of it; in descent it sang a rapid trilling strain—“*che, che, che, weeeee!*” the latter part of the song a long-drawn strained note. When on the ground or on a fence, it would sometimes sing a shrill short song, falling in tone—“*schiiii-cheeeee!*” But in mid-November these songs were heard much less frequently, and as I rode over the camp I used to hear a song, the whereabouts of which I could not make out at first: “*aweeee-titiwee-tee*” over and over again. At last I traced it to a little bird hovering and flying about in an irregular way high up in the dazzling sky. The wings were flapped quickly and then motionless for a few seconds. The song came down from several birds at once, a little distance apart, very sweetly; but it was blinding work to watch the birds for long. By 1st February they were in full moult. On the 10th April I noted that they had been very noisy lately, flying about singly and in little flocks—the call-note then being “*tehick.*” The next day I heard one sing, the weather being very pleasant, like a second spring in fact. I am inclined to think they became less numerous towards the end of autumn.

7. *PARULA PITIAYUMI*. Pitiayumi Woodsinger.

Fairly common in the monte of the Rio Negro, but I did not meet with it elsewhere. It creeps and flits about the trees and shrubs like a Goldcrest, singing occasionally a weak sibilant strain.

8. *GEOTHLYPIS VELATA*. Veiled Woodsinger.

I only met with this bird once—namely, on the 1st December, when I observed a pair among rushes and water-plants on the banks of the Saúce at Sta. Ana, away from any trees, and secured them both.

9. *CYCORHIS OCHROCEPHALA*. Ochre-headed Greenlet.

Not very uncommon in the monte of the Arroyo Grande, where I shot two specimens and often heard its lively sweet song. I also observed the bird in the monte of the Rio Negro, but it is always shy and keeps to the thicker parts. I do not know whether it is a resident, but I heard its unmistakable song as late as the 23rd May. From a wing-tipped bird I received a far more severe bite than I ever had from any other small bird: the sharp notched mandibles met in the flesh, letting blood freely.

10. *PROGNE FURCATA*. Domestic Martin.

A summer visitor and common; breeds under the eaves of houses and other buildings, and is remarkably tame. It is a town bird also, and in December I saw many breeding in the scaffolding-holes (never filled up) in the rough unplastered brick church of San Luis at Porongos (Trinidad). Sitting in the verandah or patio of an estancia house, I have often listened to them as they sat within a few feet of my head and sung their low, guttural, but sweet notes—"chrit wur chirrit-wurr." On the 29th January I noticed a pair still nesting, but on the 31st there was a great gathering of this and other species over the estancia at sundown. I think they left some time in February. This bird appears to go far north to winter, for, although I saw a good many at Rio de Janeiro at the end of September, I did not notice any there when homeward bound in June, nor at any

of the other Brazilian ports we touched at, terminating with Pernambuco in lat. $8^{\circ} 3' S$.

11. PROGNE TAPERA. Tree Martin.

Summer visitor, common—breeding in the old nests of the Hornéro (*Furnarius rufus*), and, consequently, usually seen where there are plenty of trees. I saw a pair feeding young in the nest as late as the 29th January, but I think they left in February.

12. TACHYCINETA LEUCORRHOA. White-rumped Swallow.

Common. Breeds chiefly under eaves of buildings, but a pair tried to nest in a hole in an acacia in the patio, and brought in some grass and feathers; possession was afterwards disputed by a pair of Yellow House-Sparrows, and in the end neither had it. This pair used to sit on the iron pulley arch over the aljibe, the male singing a low inward twittering song. There were still some to be seen in the camp in the middle of May, and I saw a few about the Cerro at Montevideo on the 4th June.

13. ATTICORA CYANOLEUCA. Bank Swallow.

Summer visitor and common. It was plentiful when I arrived in mid-October, and I believe left in March. It breeds in holes, chiefly in the perpendicular earthy banks of a river, cañada or zanja (a rift in the ground caused by torrents in heavy rains), and I have known nests in a little escarpment near the house where stone had been excavated. Many of the holes are the deserted burrows made by the Minera (*Geositta cunicularia*), but I am tolerably sure that in some cases they are excavated by the birds themselves. It is common to find several—perhaps a dozen—pairs breeding close together, and in October I saw birds clinging to the banks in front of shallow excavations just as we see Sand Martins at home. In 1892, however, on account of the long-continued drought, the black heavy soil had set so hard that (apparently) the birds could make little impression on it. It might not have been so hard in one way as the sandstone which we see bored in England, but it certainly did not “work” so easily. On one occasion I saw a Bank

Swallow enter a hole in the mud wall of a rancho, made either by the Minera or a Pampas Woodpecker.

14. *ATTICORA FUCATA*. Brown Martin. (Plate V. fig. 2, egg.)

A summer visitor, much less common than the Bank Swallow. My first experience of this little bird took place on the day I came up the country—19th October, when on a coldish dull afternoon we stopped to change horses at a little pulperia on the northern slope of the Cuchilla Grande, and I watched a pair of Brown Martins skimming over the ground and coming within a few yards of where I stood. On the 21st a pair were breeding in company with four or five pairs of their congeners in the bank of a cañada, and on the 18th November I found three or four pairs breeding with the other species in the high bank of a tributary of the Monzon. The next day I dug out a solitary nest in the bank of a small cañada near the house. The hole (evidently the old habitation of a Minera) was very narrow for about 30 inches, and was then enlarged into a round chamber. The nest was of grass, lined with Tinamu's feathers and some white ones, and contained five delicate white eggs, quite fresh. The habits and general appearance, apart from colour, of these birds are very similar to those of the last-mentioned species. They left earlier in the season—probably in mid-February.

15. *STEPHANOPHORUS LEUCOCEPHALUS*. White-capped Tanager.

This beautiful bird—the Cardinál imperial as it is sometimes called—is fairly common in the montes of the Arroyo Grande and the Rio Negro; it always keeps to the thicker parts, and I never saw it elsewhere. It doubtless breeds there, but I did not find the nest. One that I shot had been feeding on the berries of the moyé. Birds shot in mid-March were not over the moult. I do not know whether it is resident, but should suppose so, as I saw two on the 23rd May, *i. e.* nearly the end of autumn.

16. *TANAGRA BONARIENSIS*. Blue-and-yellow Tanager.

Resident probably (I saw it as late as 8th May) and fairly common. In spring they frequented the quinta and patio, stolidly and steadily feeding on the young leaves of the *ciña-ciña* acacia, and when at rest sitting among the flowering acacia blanca trees or in the wattles. I have counted as many as eight old males besides females in the trees. Later on they retired to the monte to breed, and I fancy several pairs may have bred close together, for at one place along the Monzon I always used to meet with them. On the 24th January I shot a young male then just moulting into adult dress. One obtained at the Rio Negro on the 14th December had been feeding on *moyé* berries.

* *SALTATOR AURANTIROSTRIS*. Yellow-billed Saltator.

One in the Museum at Montevideo from Uruguay.

* *GUIRACA GLAUCOCÆRULEA*. Glaucous Finch.

A local specimen in the Museum at Montevideo.

17. *SPERMOPHILA CÆRULESCENS*. Screaming Finch.

I only met with two specimens of this bird, both upon the same day (15th November), one in the quinta, the other on the fence dividing the barley chacra from a new plantation. They were both males.

18. *PAROARIA CUCULLATA*. Cardinal Finch.

Common and apparently resident, as they were still at Sta. Elena when I left at the end of May. They are usually seen in pairs, or later on in family parties, but on the 14th April I saw a little flock of a dozen feeding on the ground near the monte; it is possible that these were merely the young of two broods with their parents, for, like many birds here, they have more than one brood. The "Cardinal" was commonest round estancia houses where there were trees, and in thin monte, but hardly any *puesto* boasting a few trees or little clump of *tala* and *curupi* among the rocks was without a pair of these beautiful and lively Finches. The sweet flageolet-like song of the male is one of the pleasantest early morning sounds. A nest in a bush on the

edge of the monte on October 25 was formed of sticks and wool, and contained three eggs.

The eggs are greenish white, mottled and speckled closely with greenish brown, or brown; in some cases the marks are closest at the large end; in others they are nearly confluent all over.

The song consists of five parts: a single note, a treble, two double, and a short double note—thus: “*twot, twe-ee-eow, twe-eow, twe-eow, twe-eet.*” Some birds were in song all the spring and summer.

19. DONACOSPIZA ALBIFRONS. Long-tailed Reed Finch.

Not uncommon in open rush-grown spots in the Saúce and cañadas.

20. POOSPIZA NIGRORUFA. Black-and-chestnut Warbling Finch.

Common and probably resident. I shot it as late as 22nd March and observed it still later. Frequents monte and thinly-wooded banks of rivers, and haunts by preference the lower bare branches of the sarandi, a shrub which loves the muddy edges and grows far out into the mud and shallow water; here the birds may generally be seen creeping about rather like a Hedge-Sparrow or flitting from stem to stem. Irides hazel; bill and legs black.

21. GUBERNATRIX CRISTATELLA. Yellow Cardinal.

I met with this fine bird in the wild state only on one occasion, namely on the 25th May, a day or two before I came down to the coast, when, riding without a gun at the edge of the monte in the rincón of the Arroyo Grande and the Arroyo Ojosmin, I watched a pair at close quarters in a tala bush. They are sprightly, handsome birds, and are sometimes seen in cages.

22. ZONOTRICHIA PILEATA. Chingolo Song-Sparrow.

A very common bird about houses in the country, outskirts of towns, among rocks, and in the monte—in fact everywhere except in the bare camp and in the city. It nests in a great variety of situations; for instance, holes in walls (one I saw

halfway down a well), in the tin cylinders set round young trees to protect them from ants, in shrubs, &c. Two which I saw on the ground in a young plantation on the 15th November were among dead laid grass—one quite exposed, the other shaded by a handful of dead grass over it. The nests were of grass, lined with finer grass and a little short cow-hair, and contained three fresh eggs. Other nests differ a little. One nest (8th January) was built among the folds of a coil of twisted cow-hide rope hanging in a galpon; it contained one egg of the rightful owner, and even here a Toldo had inserted one of her unwelcome additions.

23. *COTURNICULUS PERUANUS*. Yellow-shouldered Song-Sparrow.

I saw several on wire fences of the chacras near Porongos, where there were some ripe barley and wheat, on the 7th December. At Sta. Elena I met with it only on a few occasions, and then always in a new plantation considerably overgrown with *paja*, thistles, &c., and adjoining a piece of ground where barley was grown.

24. *EMBERNAGRA PLATENSIS*. Red-billed Ground-Finch.

This fine Finch is common along cañadas and other places where there is a good growth of tall *paja* grass.

25. *CHRYSOMITRIS ICTERICA*. Black-headed Siskin.

Common, especially about the quintas of estancia houses, and resident to a certain extent, but possibly not entirely so; they certainly become much less common in the autumn. They are fond of feeding on the seeds of different tall plants, and I have seen them clinging to a yellow-flowered composite, and especially to a blue-and-red-flowered Boraginaceous plant called *flor morada*, just as we see Goldfinches clinging to thistles in England. The song is very like that of the English Siskin (speaking only from a knowledge of the song of the latter as a caged bird), but rather more powerful and reminding one sometimes of the Goldfinch's. This is quite one of the best song-birds of the country, and the song always seemed to carry one back to the Old World. Building was in full swing in November. On the 15th I knew of three

nest in construction and one finished. Three of these were in young poplars, the fourth in a *Pinus insignis*; the former in the first fork of the branches, 8 or 9 feet from the ground. They were formed of grass, wool, lichen, &c., and lined with hair. The next day the house-peon showed me a quite inaccessible nest, some 10 or 12 feet up a big organ cactus (or *tuna*) near the kitchen. Siskins were in song at the end of January. The local name is "Silgéro."

26. SYCALIS PELZELNI. Yellow House-Sparrow.

A very common resident. Numerous about houses and other buildings, and also found here and there among shrub-grown rocks and in large willows beside a stream. In autumn they collect in considerable flocks and feed out in the camp. I watched a male courting a female one day; he sat on a roof close to her and, with elevated tail and head and drooped wings, sang a few shrill notes. I have seen our Robin do much the same when facing a rival.

27. SYCALIS LUTEOLA. Misto Seed Finch.

Not uncommon, especially about quintas and chacras where any corn is grown and weed-seeds may be found on the edges.

* AMBLYCERCUS SOLITARIUS. Solitary Cassique.

In the monte of the Rio Negro I took the nest of what I imagine to be this bird. It was woven of vegetable fibres and long horse- and cow-hair, and is purse-shaped, $19\frac{1}{2}$ inches long and $5\frac{1}{2}$ inches in diameter at its biggest part near the lower end. It was hung to the outside twig of a tala bush, about 12 or 15 feet from the ground; the entrance is in the side, nearly at the top. Another nest which came into my hands is beautifully made, chiefly of a dark-brown vegetable fibre with a little horse-hair; it is wonderfully soft in texture. This was kindly presented to me by Mr. C. J. F. Davie. Unfortunately I was never able to secure a bird. It is well known to the Orientales as the *Boyero*, a black bird with a cone-shaped beak. Señor Don Luis Bollo, who describes the bird and its wonderful nest, says:—"Abunda, sobre todo en el Rio Negro, desde Mercedes á la boca del Yaguari."

28. *MOLOTHRUS BONARIENSIS*. Argentine Cow-bird.

Resident and very numerous. I found many eggs—both white and spotted—in October, in nests of other birds (although an early-fledged young one had left a nest by the 27th October), some of them being sucked or pecked in the nests and some lying on the ground. A Chingolo's nest in the quinta which I was watching contained one morning two red-spotted Toldo's eggs (this is the invariable local name), one already sucked, and this before the rightful owner had laid a single egg; the nest was then deserted. The Toldo must act as a great check on the increase of many birds, for notwithstanding the number of their own eggs which are wasted or destroyed by their fellows, they are very numerous. A favourite nest for laying in is that of the Mocking-bird; in one nest of that bird I found an egg belonging to the owners and five of the Toldo, while another lay on the ground underneath the nest. From February onwards there was a great congregation of these birds in the estancia gum-trees for roosting purposes, chattering after the manner of Starlings. About sundown flock after flock could be seen coming in from the camp, flying high and in a compact body like Starlings. On 12th March I made this note:—"Vast flocks in gums, two trees at corner of patio especially favoured; they are a great nuisance." Although a resident, it is possible that a partial migration takes place, as Mr. Burgess told me the flocks decreased after getting to a certain pitch as winter came on. They were certainly not so large as they had been when I left at the end of May.

29. *MOLOTHRUS RUFOAXILLARIS*. Screaming Cow-bird.

A few of these birds were to be found with the Cow-birds and Bay-wings, and I shot adults at Sta. Elena and Sta. Ana. At the former place I saw one changing its plumage and exactly like the specimen figured in 'Argentine Ornithology' (plate vi. fig. 2); I let it escape while watching its ways, and never got another chance to shoot it.

30. *MOLOTHRUS BADIUS*. Bay-winged Cow-bird.

Common and resident, and one of the familiar garden

birds. They breed in the trees about the house. A very late nest contained nearly fledged young on the 5th March; the old birds to which it belonged were exceedingly bold, and were continually mobbing one or other of the three white cats belonging to the house. The Bay-wing has a short but very sweet strain, sung in an undertone, reminding one a little of the Linnet's, especially when several were singing together in the trees just before sundown. Many roosted in the patio trees at night.

**AGELÆUS THILIUS*. Yellow-shouldered Marsh-bird.

One in the Museum at Montevideo from Uruguay.

**AGELÆUS FLAVUS*. Yellow-headed Marsh-bird.

A specimen in the Museum from Uruguay.

31. *AMBLYRHAMPHUS HOLOSERICEUS*. Scarlet-headed Marsh-bird.

This strikingly handsome species was decidedly scarce in Soriano and Flores, but breeds there. I met with it only on three occasions, viz.: on 1st January, when, after a long chase, I secured a male by the Sauce at Sta. Ana; on the 7th February, when I shot a young bird in first dress in thin monte along the Arroyo Grande (it was accompanied by others and a pair of adults); and on the 27th February, when I secured a pair in some willows at Sta. Elena.

32. *PSEUDOLEISTES VIRESCENS*. Yellow-breasted Marsh-bird.

Common and resident. In spring they haunt the low banks of rivers and cañadas, and look very pretty clinging to the tall rushes on the banks of some laguna. They are very sociable, and even in mid-November they are seen in little flocks feeding out in the camp. The nests are built among rushes and other water-plants. On the ground they run, but also hop sometimes; the tail is elevated when the birds are on the ground. After the breeding-season they are seen in flocks about the camp, and at sundown go down to the river to roost in the bushes, but from February onwards numbers used to come to roost in the estancia trees, the lower acacias

being preferred to the gums. The local name is "Pecho amarillo."

33. *TRUPIALIS DEFILIPPII*. De Filippi's Marsh Starling.

The "Pecho Colorado," as it is called, is a resident, but at the same time it is partially migratory. It usually breeds about Sta. Elena, but in 1892, possibly on account of the seca and the small growth of cardoon, beds of which they are fond of frequenting, none did so. I saw only one bird there (25th October) until early in February, when I met with a pair in moult. On 1st April I saw a small flock, and after that date they became fairly numerous, going either in little parties or joining with the Cow-birds. They were generally rather wild, but when among cover (paja tufts, for instance) they will sometimes try to hide behind the plants, and I have seen one crouch like a Partridge as I rode close to it. In December, when riding up to the Rio Negro, I saw a good many near Porongos, where there was a good deal of cardoon, and I also met with a few on the north side of that river.

34. *CYANOCORAX CHRYSOPS*. Urraca Jay.

This beautiful bird is well known to the English residents as well as to the Orientales. It is said that no one has ever found its nest; and that, while frequenting the thicker parts of the monte, it is a very inquisitive bird, and tame under certain circumstances. For instance, if a piece of meat is hung up in the monte, the Urracas will come to it and almost suffer themselves to be noosed; they will even come to see what you are doing. What I saw of the birds confirmed this. I had no difficulty in watching them at close quarters as they hopped about in a thick growth of mataojo or other scrub, and on the 26th November, while smoking a pipe after breakfasting in the monte of the Arroyo Grande near the Paso de los Loros (Sta. Elena), I heard a bird making some curious low crow-like notes close at hand. Peering through a thick growth of shrubs and creepers, I caught sight of something blue, and shot a female Urraca, which I did not at all expect to do, as I was assured the Urraca was not found in that part of the country. I never met with it again there, and it must

be quite rare. In the valley of the Rio Negro it is fairly common. The name Urraca was probably bestowed from its sounding like one of the bird's notes.

35. MYIOTHERETES RUFIVENTRIS. Chocolate Tyrant.

An autumn visitor for the winter. I saw one as early as the 19th February, but it was not until the 5th March that they appeared in any great numbers; after that date they were not uncommon in parties of a dozen or less. They bear a superficial resemblance to Fieldfares, haunting the open camp, especially ground sloping down to a cañada. They hop more than they run, and like to sit on a small ant-hill or other slight elevation, moving their rather long tails up and down; occasionally they will perch on the posts of the wire fences. The flight is swift and glancing on long pointed wings, the light brown on the secondaries being exposed in flight.

36. TENIOPTERA NENGETA. Pepoaza Tyrant. (Plate V. figs. 3, 4, eggs.)

Irides reddish orange or orange-red. Bill and legs black.

This beautiful Tyrant was not uncommon, but with one exception I never remember seeing it anywhere except about an estancia or some other house where there were trees. The one exception was on 3rd December, when I saw a pair with young just out of the nest in some rather open monte by the Arroyo Grande, but even then the estancia of Sta. Adelaida was not more than half a mile away. We had three or four pairs breeding at Sta. Elena, and I noticed more than one pair at Sta. Ana and others at various places. On the journey down from the Rio Negro I observed it at a fonda just south of the Paso de Navarro, also at an estancia where we stayed a night, between there and Porongos, and at other places, but I did not see it on the north bank of the Rio Negro. On the 8th November I examined two nests in the quinta. One was built in the crown of a young *Pinus insignis*, about 10 feet from the ground, and was formed of fine twigs and roots, and lined with horse-hair. It contained one egg (beside three Toldo's), of an elongated ovate shape, warmly tinted white, marked at the larger end with a few

large spots of lilac under-colour and umber surface-colour, the colour of the latter having the appearance of having "run" in the shell; there is also one spot towards the middle of the egg. The second nest was also in a *P. insignis*, about the same height from the ground, built against the trunk where a branch came out. The walls were of twigs and roots, and the nest was lined with hair and many white and light-coloured feathers. It contained one egg (and a broken Toldo's), ovate, white marked with spots, rather more numerous, but smaller and darker and more clearly defined, than in the other egg, and some lilac under-marks.

I almost wonder the Cow-birds ever "got at" these nests, especially that of the first pair, one of which was generally mounting guard.

This Tyrant loves to sit quietly on a conspicuous spot near the nest, such as a low tree-top or the stake of a vine. It sits in an upright position, and I have seen it elevate the feathers of the occiput. They used also to sit on the quinta fence and search the adjoining potrero for the thick whitish brown-headed grub of the isoca beetle, 1 or $1\frac{1}{2}$ inches long. When disturbed it spreads its beautiful white-banded wings and sails with a swift gliding curve to a perch a short way off. They are very tame, and I often used to watch them from a few yards distance, the red eye being very conspicuous. I never heard the bird sing. Some of their aerial movements are very pretty. They throw themselves from the tree-top, and with buoyant dancing flight, wings upraised and legs dangling, go in a curve to another tree-top, or merely dance up in the air to descend to the same spot again.

I do not know whether they are resident, but think not. They were at Sta. Elena when I arrived, but the last I remember to have seen was on the 6th April, when I shot a male.

*TÆNIOPTERA DOMINICANA. Dominican Tyrant.

One in the Museo de Historia Natural at Montevideo from Uruguay.

37. TÆNIOPTERA IRUPERO. Widow Tyrant.

Not at all uncommon, having a preference for estancia

houses with large quintas. A pair in Sta. Elena bred in an old Hornéro's nest. The young were out of the nest on the 27th October, and I caught one in my hand early in the morning as it sat on a fence, evidently feeling the bitterly cold west wind, the thermometer having been only just above freezing-point at sun-up.

**ALECTRURUS RISORIUS*. Strange-tailed Tyrant.

In the Museo de Historia Natural.

38. *SISOPYGIS ICTEROPHRYS*. Yellow-browed Tyrant.

A quiet bird, sometimes seen in the monte, with a single sweet note. I shot two at Sta. Elena, both females, one in the quinta on the 2nd November, the other by the Saúce on the 3rd March.

39. *CNIPOLEGUS CYANIROSTRIS*. Blue-billed Tyrant.

Irides reddish hazel; bill blue with black tip.

I obtained two specimens in the monte of the Arroyo Grande at Sta. Elena in March. From what little I saw of it, it appeared to be a shy, retiring species, frequenting the thickest wood. The food found in the crop and stomach consisted of remains of small insects.

40. *LICHENOPS PERSPICILLATUS*. Silver-billed Tyrant.

Common, frequenting the bottoms along the sides of rivers and cañadas, especially where there is thick paja. The females and young disappeared about the end of March or beginning of April, but some old males still remained at the end of May, and are probably resident. I never noticed the antipathy between the sexes mentioned by some writers, although all individuals of this species have a liking for a buffet at one another (or at other species) when they chance to come to close quarters on the wing, just as butterflies do in the air. The male has a rose of naked skin, primrose-yellow, round the eye, crimped, serrated, and wrinkled like the petals of a flower (indeed the eye and rose together look just like a flower); iris another shade of same colour, but rather greener; bill pale primrose. The male loves to sit on the post of a fence, a twig of a low bush, or a big tuft of paja,

and suddenly to mount straight up into the air, and, as suddenly, turn and come straight down to its perch again, a humming noise being produced. Often when flying along this bird's wings make a curious whirring rattle.

41. *MACHETORNIS RIXOSA*. Short-winged Tyrant.

Common and resident, a familiar bird about estancia houses. A pair bred in an old nest of *Anumbius acuticaudatus*, just in front of our living room, and they and others were often to be seen running about on the quartz sand of the inner and outer patios. The young were out of the nest (which appeared to have had some wool added) on the 28th October. The note is a shrill chattering, almost a song.

42. *CENTRITES NIGER*. Red-backed Tyrant.

An autumnal visitor. I only met with it on three occasions (the first being on 20th April), frequenting the neighbourhood of small cañadas.

43. *HABRURA PECTORALIS*. Thin-tailed Tyrant.

I only met with two of these birds, one on the 7th and the other on the 11th November, both males, and both in the same place, a belt of young plantation with undergrowth of grass, thistle, and other plants, joining the barley chaera.

44. *SERPOPHAGA SUBCRISTATA*. Small-crested Tyrant.

Not uncommon in quinta and parts of monte, where it flits about the bushes like a Willow Wren. On 9th November a pair were feeding brancher-young on the orange-trees in the quinta.

45. *SERPOPHAGA NIGRICANS*. Blackish Tyrant.

Common; always seen along rivers or cañadas, whether edged with monte or merely grown up with water-plants here and there. When watching a pair one day in spring, I observed the male raise his head and sing a burst of short trilling notes. The usual sound one hears from it, however, is a single plaintive note as it flits from one spot to another, rather after the fashion of a *Phylloscopus*, making its way along a bush-sheltered water-ditch on a cold spring day.

46. *CYANOTIS AZARÆ*. Many-coloured Tyrant.

This wonderfully-coloured little bird, known in Argentina as "Siete colores," is only an autumn visitor and rare. I only met with it twice. On the 9th March I found one flitting about the rushes and water-plants at the edge of the Sta. Ana Sáuce, and after a long time succeeded in shooting it, only to lose it in the thick herbage. The other, a male, I shot in a precisely similar locality on the Sta. Elena Sáuce; in both cases the ground on the banks was inclined to be boggy.

47. *ELAINEA ALBICEPS*. White-crested Tyrant.

I met with this Tyrant only twice, in November and March, at Sta. Elena. I have seen it in the monte hawking at flies from a bush.

48. *PITANGUS BOLIVIANUS*. Bien te veo Tyrant.

Common and resident. Breeds early, for a pair the nest and young of which had been blown out of an ombú in the outer patio in a pampero were busy building again in a gum by the 25th October. A nest on the 22nd November in the small branches of a ciña-ciña was very big, long, and heavy, of an oblong shape, with a hole near the top of one side; it was built of sticks, roots, and a great deal of wool, lined with feathers of Tinamu, &c., and contained five eggs. From the amount of wool these birds use now, you wonder what they made their nests of before sheep were brought into the country. The Venteveo generally makes its nest in the small twigs on the outside of a tree or bush, and although, from its position, this bulky affair frequently suffers from high winds, yet when placed in a thorny tree it is generally quite safe from would-be human robbers. It is unnecessary to enter fully upon the habits of this well-known bird, but I may call attention to its good offices in eating the larva of the isoca beetle, so injurious to grass roots; when searching for them I have seen it hovering over the ground like a Kestrel.

49. *MYIOBIUS NÆVIUS*. Little Brown Tyrant.

Fairly common in the monte, where it sits on low bushes,

flying from one to another, or catching flies like a true Fly-catcher, with glancing flight. Also hawks insects from the orange-trees and wire fences in the quinta. Has a single, rather low, sweet note.

50. *PYROCEPHALUS RUBINEUS*. Scarlet Tyrant.

A summer visitor and not uncommon on the edge of the monte and about quintas. The first of these brilliant little birds I saw was close to Montevideo on the 15th October. At Sta. Elena it appeared on the 24th, and next day I saw one in the quinta, where they usually breed. The last I saw was on the 6th April—a young male moulted into nearly adult dress—but the adults, I think, had disappeared quite early in March. The male is a pretty sight on a dazzling clear morning, against a background of saúce and tala, as it hovers and sails in the air with a dancing, waving flight, uttering its short, faint, sweet strain, “*itereeee, itereeee, itereeee*,” over and over again.

51. *MYIARCHUS FEROX*. Fierce Tyrant.

I observed this bird on several occasions in the monte of the Rio Negro, but not elsewhere. It was usually sitting on a branch at some height from the ground at the edge of an open space or on the river-bank.

52. *TYRANNUS MELANCHOLICUS*. Melancholy Tyrant.

Noticed first on the 17th November in the quinta, but not again until January, when I shot a female on the 24th, and a male on the 28th, in some thin monte by the Saúce. It is uncommon, but breeds, for on 6th February I shot an old and a young male just flown, from a family party in the Monzon monte. The alarm-note is a low, shrill, weak “*tit-tit-tit-tit-tit*.” It likes to sit on a tree-top and to sail thence to another with its very light buoyant flight.

53. *MILVULUS TYRANNUS*. Scissor-tailed Tyrant.

Summer visitor, and common. According to Mr. Burgess it had just arrived when I reached Sta. Elena on 19th October, and it was fairly common a day or two after. They are pugnacious, and on two meeting in the air they poise

themselves with tail spread to its widest extent, and utter a few strident and grating notes. When the male pursues its mate or an enemy with spread tail it sways or swaggers in its flight. In January I noticed them darting at some tame Caranchos in the quinta, actually striking the heads of the birds, which merely "ducked" in the attempt to avoid the onslaught. At sundown early in November I used to see them (once three in a row) sitting on a bare poplar singing. The song is exactly like the sound produced by winding up a powerful check winch, at first very slowly, *click, click, click, click, click*, then a little faster. The nest is rather deep, formed of roots, grass, and a very little wool, and lined with hair; the eggs resemble those of the Venteveo in colour, but have more spots, and are much smaller of course.

54. *PACHYRHAMPHUS POLYCHROPTERUS*. White-winged Bécard.

I saw a pair in the monte of the Rio Negro on the 12th December, and secured the male, but the female (which was a warm-brown coloured bird) flew into some very thick wood at the shot, and I could not find her again.

55. *GEOSITTA CUNICULARIA*. Common Miner.

Common, frequenting the barest ground and often seen in front of your horse's feet on a road-track, yet seldom found far from some cañada with steep banks or a zanja (a rift in the ground or a perpendicular bank where the earth has broken away) in the camp. In the faces of these banks it drives a long burrow for its nest. I have seen the mud walls of a ruined unroofed rancho bored through and through with holes, possibly *partly* the work of this bird. The "Minéra" has much the habit of our Wheatear, but has a rapid, ringing cry.

56. *FURNARIUS RUFUS*. Red Oven-bird.

Very common, especially about houses. They build their nests in the most conspicuous spots, *e. g.* the top of a fence-post, a very favourite position. Others are placed on the tops and sides (sloping at various angles) of the granite boulder rocks, others on the giant organ cactus formerly used for

hedges, branches of trees, vine trellis, houses, cross-bars of well-windlasses, and other works of man. One actually built its nest on one of the arms of a tall white cross—about the most conspicuous place it could have found. I saw some nests being constructed in November, just after a little rain, but the sea soon put an end to the building operations. Fresh eggs were taken in the middle of the month. It is probable that many nests are built in autumn and winter. After heavy rain at the end of March, the birds begin to build. I noticed two on fence-posts, close together, on the 2nd April, another on the 7th, and several afterwards, all in course of construction.

57. CINCLODES FUSCUS. Brown Cinclodes.

An autumn visitor, probably for the winter. The first I shot was wading about in marshy ground and shallow water on the 3rd April. By the middle of the month they were fairly common. I never saw it far from a river or cañada.

58. PHLÆOCRYPTES MELANOPS. Rush-loving Spine-tail.

Not common. One of its mud-and-rush-formed nests, containing two eggs, was taken at the end of December, but I procured only one bird, though I saw others which I could not have recovered had I shot them. It is easily overlooked, as it never seems to leave the rushes or other cover, and I have never seen it except actually over water.

59. LEPTASTHENURA ÆGITHALOIDES. Tit-like Spine-tail.

I used to see this little long-tailed bird twisting about among the branchlets of a tala in the monte or among the rocks, or in an acacia or other tree in the quinta, uttering a series of sharp Tit-like notes; its habits and appearance (apart from its colour and elevated crest-feathers) are not unlike those of a Long-tailed Tit.

60. SYNALLAXIS STRIATICEPS. Striped Spine-tail.

Met with occasionally in the monte, generally creeping about the branches.

61. SYNALLAXIS HUDSONI. Spine-tail.

I secured only one specimen of this bird (♀, 3rd May, Sta.

Ana), but I believe I met with it on a good many occasions; its habits, however, render it very difficult to shoot. It lives among tall *paja* grass, and runs rapidly, with tail slightly raised, among the hassocks, dodging out of sight in a moment. Little flights into the air, only a foot or so above the *paja*, are occasionally taken, apparently in pursuit of insects. When flushed it only flies a very short distance, and then drops into cover again. The one I shot, being only winged, gave me a long chase—100 yards at least,—dodging among the *paja*, and at length “went to ground” in a thick tuft. It was five minutes before I could kick it out, when another short run ensued before I “killed” in a small hassock.

62. *ANUMBIUS ACUTICAUDATUS*. Firewood-gatherer.

Resident and common. With us the nest was usually in *curupi* bushes growing among the rocks; this tree is without thorns, and has not many branchlets, besides which a part of nearly every bush I saw was dead*; another favourite position was one of the young poplars in the quinta. The note of the “Espinero” is a *chit chit cher-eeeeeeeee*, the latter part rapid.

63. *PHACELLODOMUS STRIATICOLLIS*. Red-winged Thorn-bird†.

Common, frequenting especially parts of the rivers which have thin monte or only a few scattered bushes along the bank, but also found among bushes in the rocks. The nest is placed in the outer twigs, or a small fork of a tree or bush, in some cases overhanging the water. It is formed of thorny and other twigs, and is lined in some cases with long horse-hair and cow-hair, and in others with roots, a little hair, and a few Tinamu feathers. The nest, which lies in a sloping position, is like a wide-mouthed bottle, and consists of two chambers, an outer and an inner. One on 9th November had a delicate white egg, quite fresh, in the outer chamber;

* See Mr. Hudson's remarks hereon in ‘Argentine Ornithology’ (i. p. 190).

† [This bird was unfortunately misnamed in Arg. Orn. (i. p. 194) and called *P. ruber*. See Cat. B. xv. p. 82.—P. L. S.]

the bird sat in the doorway until I came within a few paces of it. The song is a succession of clear, sharp, shrill notes, falling in tone and quickening towards the close.

64. HOMORUS LOPHOTES. Brown Cachalote.

I found this fine bird in several places in the monte of the Arroyo Grande, and also on a few occasions in the quinta at Sta. Elena, which is a long way from any river-monte; but it was far from common. The first I shot (a female) flew up from the ground and uttered harsh Jay-like cries of alarm as it flitted and climbed about a tala bush—its crest elevated. The iris is straw-yellow, bill blue-grey. On the 29th January I watched a pair about their nest in one of the avenues of big *Eucalyptus globulus* trees at Sta. Adelaida. The female went on to the nest, and the male remained outside preening his feathers. The nest was about 30 feet up, on a few horizontal shoots from the trunk. It was built of rather big sticks and was quite large, about 30 × 18 inches, shaped like a pear flattened at the sides and lying on one side, the entrance-hole being underneath near the neck or small end. The note of this bird is a very hard harsh scream, loud, beginning high, many times repeated, and becoming lower and deeper in tone and quicker in delivery. The male bird at the nest mentioned above afterwards flew to some fruit-trees, where he crept about with the quick jerky movements of a Woodpecker. I have observed these birds at the picado through the Arroyo Grande leading from Sta. Elena to Sta. Adelaida, and at various other places in the monte. I shot a fine male on the 23rd April.

65. PICOLAPTES ANGUSTIROSTRIS. Narrow-billed Woodhewer.

I met with this species only once, viz. on the 16th December, in the monte of the Rio Negro, when I shot one in a low thorny tree. It was by far the most active climbing bird I ever saw, and, being only winged, it escaped my grasp and ran twice to the top of the tree after being shaken down before I could secure it.

66. *THAMNOPHILUS CÆRULESCENS*. Slaty-blue Bush-bird.

Met with once (a male) in the monte of the Arroyo Grande at Sta. Elena on the 16th March.

**THAMNOPHILUS RUFICAPILLUS*. Red-capped Bush-bird.

One from Uruguay in the Museo de Historia Natural.

**CALLIPERIDIA FURCIFERA*. Angela Humming-bird.

One from Uruguay in the Museo de Historia Natural.

67. *CHLOROSTILBON SPLENDIDUS*. Glittering Humming-bird.

In consequence probably of the seca, and the scarcity of flowers, Humming-birds were said to be unusually few. Yet there was a pair about most houses boasting any garden and trees; at Sta. Elena I think we had two pairs at the house, and another about some young gums in a belt of new plantation where there was a large patch of a plant of the Borage order with blue and red flowers—known as the *flor morada*. The first I saw was on 30th October. On the 10th November, just as I was finishing dressing at 6.45 A.M., one came and hovered outside my window, probably in search of insects. Going out into the quinta a few minutes after, I found two or three about the orange-blossoms. Although the sun was bright, the air was very cold, only 31° at sun-up, and 51° at 7.15 A.M. Next morning, while we were having our early tea, another came to the window. I used to watch the birds over the *flor morada* patch; they settled sometimes on the wires of the fence or the twig of a young gum; on these occasions I sometimes heard a shrill, weak, twittering note. A male shot had the crop and stomach full of remains of small insects, some having quite hard cases. On the Rio Negro I observed this species several times: they are there always attracted by the sprays of large dark Indian-red flowers of the ceiba (*Erythrina*). One pair has bred for some years in a paja-thatched summer-house at Sta. Elena. For the last three years they have repaired the old nest, which, when I saw it, was about 3½ inches high, as it grew taller each year. In 1892 the pair built a new nest, within a few

inches of the old one, also attached to an ivy-stalk; it was composed of vegetable down, bits of leaves, cobwebs, &c. On the 7th January, on returning from some weeks' absence, I found the nest finished and containing two oblong white eggs, large for the size of the bird. They were hatched the next day. I think it must have been on account of the scarcity of flowers that the young remained in the nest such a very long time. On the 5th February I found one young one dead, hanging to the outside of the nest by its claws. It was still almost naked, and being fortunately fresh has reached England in a little bottle of caña. The other was bigger, but hardly any better clothed. It was not until the 19th that it left the nest, and on the 21st it was a "brancher" in some ciña-ciñas in flower close at hand. It spread and agitated its tail violently, as the old ones do when uneasy, and like them seemed full of nervous energy. The local name is "Picaflor."

68. *PODAGER NACUNDA*. *Nacunda* Goatsucker. (Plate V. fig. 7, egg.)

Common, frequenting the open camp, also places where a little low *paja* and *cardoon* are dotted about. I saw a pair in a small *potrero* near the house (where they bred) on the 21st October, a day or two after I came to Sta. Elena, so do not know how much earlier they arrived. They come abroad just as the sun goes down, when several could be seen in the air at once over the *paja*. Now they sail easily along, or skim the ground with upraised wings, then twist and twirl in the air (often flying high up) like an angry Lapwing. They make a noise like "whirrooo" when two meet and toy in the air. On the 17th November there was a nest (?) in the small *potrero* with two newly-hatched young squatted parallel to each other on the bare ground. They were covered with quite plain dark terracotta-coloured down, with a vinous shade on the upper parts; underparts white, tinged with the same; tips of wings pure white. The old birds, which were very bold, came back, making the usual lame excuses to draw us away more than once. This performance

included a stratagem I never saw practised before. The bird flew away very low over the ground, almost touching it, its short legs hanging down, tail dropped and slightly spread out, and generally with the appearance of flying with difficulty and being weighed down by something carried in its feet. In fact it looked exactly as if it was carrying off one of its young. I confess to having been once utterly deceived, and to having made a frantic dash after the bird to cause it to drop the supposed passenger; this was after we had moved away a little from the young and turned our backs on them for a moment, and the bird had come back and alighted close to the spot. However, on going to the place again, I found both young untouched. It is highly probable that the *Dormilón* does habitually move its young when disturbed, and that on this occasion it perhaps had not time to pick one up when first disturbed, or the second time either, and yet from force of habit went off as if it was really carrying a pichón; or it may really have *pretended* to be doing so in order to deceive us, and to induce us to follow and lose the place where the young were. To attempt to decide this would be to build up one of those insufficiently-founded theories which are only too common nowadays. Whether the young were eventually moved or not I do not know, as I left for another part of the district at that time. I picked up the fragments of one egg. On the 28th November we found in the open camp, on particularly bare ground at Sta. Ana, a young bird which could just fly; it retained the vinous shade on the head and had a huge flesh-coloured mouth. An attempt to keep it alive failed. Two fresh eggs were taken at Sta. Elena in the last days of November. The eggs have the ground-colour white, washed with pinkish brown, and are marked all over with small loose blotches of warm brown; there are some slight undermarkings of grey. The eggs are subject to some variation, the markings being sometimes very small and less plainly defined; some eggs have a pinker shade than others. On the 31st January, after a wet morning, about 4.30 P.M., with a close, damp, hot atmosphere preceding thunder, the air being full of swarms of flying ants, most unpleasant to ride

through, a flock of Dormilónes—50 or 60—was hawking at a good height in the air. The next day I found a great gathering of them in some thistle and *paja* in and around the small potreros. They rose freely, numbers being in the air at once. There must have been 200 at least. Those shot, young and old, were very fat. They all disappeared within a few days after this, which seemed to be uncommonly early for their departure.

69. *ANTROSTOMUS PARVULUS*. Little Goatsucker.

I met with this species only on one occasion, viz. on 14th December, when I flushed a pair (killing the male) in an open glade in the monte of the Rio Negro. Inside of mouth flesh-colour. A search for the eggs or young was unsuccessful.

70. *HYDROPSALIS FURCIFERA*. Fork-tailed Goatsucker. (Plate V. fig. 5, egg.)

I saw this curious Nightjar on several occasions in open spots in the monte of the Arroyo Grande, and once in a similar place in that of the Saúce. On 3rd December I flushed, and shot, a female from her two eggs, and shortly afterwards secured the male. The eggs were laid on the ground among dead thorny twigs, under a *tala* bush, in an open spot in the monte, and were upon the point of hatching. They are of a smooth, creamy texture and appearance. The ground-colour is a very pale shade between buff-cream and pink, and they are delicately marbled with lines and veins of pinkish lilac, something after the manner of Buntings' eggs. On the 15th March I shot a young male not far from the same place (very fat) and saw another; and on the 17th I saw a male with the long tail-feathers settle on a post of a wire fence which passed through part of the monte—it sat lengthwise to the line of fence. The curious long swallow-tail of the male does not seem to incommode it at all, as the bird can turn and twist about in its rapid gliding flight in a wonderful way, and accomplishes the difficult aerial navigation of the thorny monte with all the ease and grace of our Nightjar in an oak-wood. The date above given was the latest on which I happened to see this bird, but it may have

remained later; at all events it was six weeks after I had lost sight of the abundant *Nacunda* Goatsucker.

71. *CAMPEPHILUS BOIÆI*. Boie's Woodpecker.

Mr. Sloane showed me the skin of one of these grand Woodpeckers which he had shot at Sta. Florencia.

72. *CHRYSOPHILUS CRISTATUS*. Red-crested Woodpecker.

Not uncommon in the monte, and especially fond of willows. It sometimes came to the quinta, but did not attempt to breed there, with the exception of one pair, which were shot early in October. It often sits crosswise on a branch. The alarm-note is a short, sharp "took," something like that of a *Dendrocopus*; another sort of call, uttered chiefly at sundown in autumn, is "uk-gooooo."

73. *COLAPTES AGRICOLA*. Pampas Woodpecker. (Plate V. fig. 6, egg.)

A very common resident; indeed, the number of these beautiful golden-necked Woodpeckers you see in this rather treeless country is remarkable. They are commonly met with about the camp, though seldom far from the monte, a quinta, or patch of rocks, and are often to be seen perched on the fence-posts. Many frequent the monte, and doubtless find a certain number of willows big enough to serve as nesting-trees. The large ombú trees about puestos and ranchos harbour some; but the favourite resort in the nesting-season is an estancia with a large plantation of trees, gums, acacias, &c. In a country where trees are raised only at much expense, and are greatly appreciated for their shade and shelter, it is obviously undesirable to have them (while still growing) pierced by Woodpecker holes, so that estancieros are under the necessity of killing many Pampas Woodpeckers in the spring. Fifteen were shot at Sta. Elena during the month ending 22nd October, and yet I saw four or five about the trees a day or two after. Finally one pair succeeded in breeding, and four fresh eggs were taken from a hole in a decayed gum in the last days of November. At Sta. Adelaida I saw a Woodpecker feeding its young in a hole in a gum as late as the 29th January.

After the breeding-season they do no damage, and at all seasons they are among the most familiar birds about houses where there are trees. I have seen the mud walls of a deserted ruined rancho pierced through and through with holes, and disturbed Woodpeckers from the spot; the holes may have been partly the work of the Minéra. But I have heard complaints of Woodpeckers damaging the woodwork and walls of houses. The Pampas Woodpecker obtains most of its food on the ground, and it is common to flush them (in family parties after the breeding-season) when riding over the camp. They perch crosswise on a branch to a great extent, but are also very commonly seen clinging vertically to and climbing up the trunks and larger branches.

+74. *CERYLE TORQUATA*. Ringed Kingfisher.

Met with on several occasions on the Arroyo Grande and the Sta. Elena Sáuce. It is generally a shy and wary bird, taking alarm easily and flying a considerable distance; when the river is small and the monte not continuous it rises high in the air when passing from one laguna to another; at other times it flies low up the middle of the river. But I have once or twice watched it perched in full view at a short distance. The flight is strong and steady, with rather intermittent beats of the wings. This mode of flight is common to the three species of *Ceryle* I met with, and the birds fly more slowly than our English Kingfisher; but *C. amazona* beats its wings faster than the present species, and *C. americana* faster still. The attitude of the birds when perched on a branch and somewhat alarmed is similar in all three species. The body is held at an angle of 45° , or perhaps a little more upright, the head forming rather more than a right angle with the body; tail horizontal, crest erected; the wings are a little drooped and the tail nervously jerked up at the same time. At rest, or when watching for fish, they sit very much as our bird does; but the long tail gives them a different appearance. Alarm-note a loud, harsh, rattling cry.

75. *CERYLE AMAZONA*. Amazon Kingfisher.

This was the rarest of the three Kingfishers I procured. I met with it on only four occasions, viz., on 31st December on the Sta. Ana Saúce, on the 3rd and 4th of April on the Sta. Elena Saúce, and on the Monzon on the 11th May. Its alarm-note is a harsh, chattering cry. I have seen both this and the next species hover over the water like a Kestrel.

76. *CERYLE AMERICANA*. Little Kingfisher.

Much more abundant than the other species and far from uncommon. Its note is similar to that of the last-named species, but weaker.

77. *GUIRA PIRIRIGUA*. Guira Cuckoo.

The "Parincho," as it is called, is quite common and a familiar bird about quintas. In October they used to sit in pairs, touching one another, on the barer branches of the trees; sometimes two or three pairs close together. Meanwhile they made a chattering noise rather like young Hawks, and now and then a male raised his head and produced a series of far-sounding cries, beginning high and dropping gradually—very resonant, "*pee-ip, pee-ip, pee-ip, pe-ow, pe-ow, pe-chow*." The cries of the "Parinchos," indeed, were one of the most familiar sounds at that season, and as I write the syllables I seem for an instant transported back to those dazzling spring days with their hot sun and cool breezes, and all the brilliance of that crystal air. I do not think they were breeding then; and a set of five eggs procured for me (hedge-sparrow blue, netted over, like a melon, with lines of encrusted white) by Mr. Burgess at the end of November was quite fresh. It is sometimes called the "Urraca."

78. *CONURUS LEUCOPHTHALMUS*. White-eyed Parrot*.

I found this fine Parrot only in the valley of the Rio

* [This species is not included in 'Argentine Ornithology,' and, so far as I know, has never been recorded among the birds of Uruguay. But it is probably the "*Maracana verde*" of Azara (Apunt. i. p. 415), and it was obtained by H. H. Smith at Chapada, in Matto Grosso (Allen, Bull. A. M. v. p. 140), and by Joyner in Rio Grande do Sul. See Salvad. Cat., B. xx. p. 188,—P. L. S.]

Negro, where, without being scarce, it is not abundant. It is known there as the "Loro," or the "Barranquero," the latter name properly belonging to *C. patagonus*, which is unknown there. The "Barranquero" (to retain the most usual local name) to a great extent keeps to particular spots in the monte—although it visits the chacras when the maize is ripe. They are rather shy and not very easy to procure, as when sitting on the trees their green colour renders them inconspicuous, and they easily take alarm and fly off to a distance. They are usually seen in pairs, or in parties of four or five, flying over the trees or the river at a great pace, uttering rather deep-toned harsh screams. The two specimens I procured had been feeding on some unripe flat-shaped seeds. They were in worn plumage (December). The charcoal-burners there say the "Loros" breed in holes in trees, and as they occasionally procure young birds for English and other residents they are doubtless correct. At the end of March I saw two young ones which had been brought from that locality, and, from what I could learn, were taken about the end of February. They must grow their feathers very slowly, as one was not nearly covered at the time I saw them. The talking-powers of this bird are very considerable, and it is highly prized in captivity on this account. They become wonderfully tame.

79. *BOLBORHYNCHUS MONACHUS*. Green Parrakeet.

The "Cotorrita" inhabits parts of the monte of the Arroyo Grande and Monzon, living in small colonies. There were two nests in tall poplars close to Sta. Adelaida, on the former river, with five or six pairs in each nest. They were large masses of sticks, about a yard and a half in diameter and a yard in depth; round the lower edge were some porched holes, each occupied by a pair of birds. On 3rd December I found many broken egg-shells under the nests, so that the young were probably hatched. In the valley of the Rio Negro the "Cotorrita" was more abundant, and I saw several large nests, always in the taller trees. These birds visit the gardens and maize chacras which happen to

lie near their usual haunts. On 29th January I saw a little flock in the quinta at Sta. Adelaida among the membrillo bushes (a kind of quince), which were probably in search of the seeds of this fruit. I have also seen them feeding on the ripe seed-heads of the cardoon thistle. Except when they come out to feed on some special crop, however, they keep to the monte; but when riding up to the Rio Negro I saw, just on the other side of the Marincho, a small colony in some low trees round a ruined puesta. It is a resident, I suppose, as they were still about their usual haunts on 25th May. The "Cotorrita" is often kept in cages, but its talking-powers are very small.

+80. *ASIO BRACHYOTUS*. Short-eared Owl.

Met with at various dates continuously from the 26th November to the 7th May, and it is doubtless a resident, but I could never discover the nest. On one occasion (1st April) one hovered over some thick paja, on being flushed, with an angry, harsh, chattering or barking cry; but I was in pursuit of something else at the time, and could not find the exact spot afterwards. Those I saw and shot were like the warm-coloured form found in England.

81. *SPEOTYTO CUNICULARIA*. Burrowing Owl.

Common, breeding in the open camp, but usually at no great distance from a group of rocks, on which, and the stunted shrubs among them, they like to sit. The burrows are sometimes in the open ground, sometimes at the foot of, or partly underneath, a boulder. This little Owl is "brava." Upon any intrusion on its haunts it launches itself into the air, and hovers like a Kestrel, uttering loud, sharp, rapid, Hawk-like cries, and often it will swoop down in a menacing way. With a dog they are especially fierce. I have known a bird repeatedly strike at an old terrier which used to accompany me on shorter excursions, to his great irritation and disgust. The Owl would sail gently along, and as it passed over his back (always approaching from the rear), just drop its legs and claw his back, or even his ears. The old dog used to spring up into the air with angry barks and

snaps at his tormentor—by that time safe up aloft again. Although the pluckiest dog alive, he could not deal with this aerial enemy, and used to come at last to my feet to escape the annoyance; I have, as it grew dusk, known the Owl strike him when he was only four or five paces from where I stood. Some broods were hatched before and about Christmas (I saw fledged young in the nest at the Rio Negro on the 18th December), and early in February the whole family used to sit about on the rocks, bushes, or camp. The young numbered from two to five. But some appeared to be nesting (again?) at that date, and I knew of one place where there were four used kennels close together. The mouths of the kennels are strewn with the remains of small reptiles, beetles, locusts, &c. The Owls do much good by eating the isoca beetles, remains of great numbers being found; most of them are the females. When the Owls eat the male beetles they snip off and reject the thorax with its powerful horns; this part is not found in the pellets, but lying separate. The call of this Owl is “*coc-coquoi*” or “*coc-co-woy*,” the last syllable drawn out; sometimes it is “*coc-quoi-o*”. This calling takes place at sundown, when you can hear the Owls all about the camp. The serenade over, they begin to feed in earnest (for though they sit about outside and are quite at ease all day, they feed chiefly after sundown), often hovering like Kestrels over the camp and about the trees and plantations of the quinta. Sometimes they scream harshly at night.

*CIRCUS MACROPTERUS. Long-winged Harrier.

A fine series in the Museum.

*BUTEO ERYTHRONOTUS. Red-backed Buzzard.

A series in the Museum.

82. GERANOÆTUS MELANOLEUCUS. Chilian Eagle.

Doubtless a resident, as, although I did not actually find it breeding, I was told that eggs were sometimes taken, and I saw examples at all seasons during my residence in the country; they were, however, certainly more numerous at the end of summer and in autumn. The fully adult bird has the upper parts grey, barred indistinctly on the wings and

tail with a darker lead-grey; breast grey, with each feather tipped with white; belly pure white.

83. *FALCO PEREGRINUS*. Peregrine Falcon.

Two undoubted Peregrines flew over the quinta late in the afternoon of the 9th November, against a strong S.S.W. wind, and seemed inclined to alight in the gums, as they came down a little. On the 8th February a lovely adult bird flew over my head fairly low down; the upper parts were pale blue-grey (as well as I could see), head black, or nearly so, underparts buff-white. The horse I was riding was too fidgety to allow me to shoot from his back, and the bird would have been far away before I could have slipped off and hobbled him. I saw the Falcon subsequently, but could never get a shot. A puestero living near had seen it and called it the *Halcón*, simply. It would, of course, be of the subspecies known as *Falco cassini* of Sharpe (see Cat. B. i. p. 384).

84. *TINNUNCULUS CINNAMOMINUS*. Cinnameous Kestrel.

Fairly common on the Rio Negro, and often seen there poised over the monte, its ringing note (like that of our Kestrel, but weaker and shriller) attracting attention at once. I also used to see it in the camp there sitting on fence-posts or an ant-hill on the look-out for large insects. On the 13th December I shot a pair in worn dress on a dead tree, rotten and broken off, and probably hollow at the top, in which I believe they were breeding. About Sta. Elena it was rare. One was reported one morning by the house-peon hovering over a hedge of cactus &c., the resort of small birds, near where the fowls were fed; he called it the *Gavilón* and imitated its Kestrel wing-beating and hovering. But the only one I secured at that camp was an adult female over its moult on the 22nd April. On the 15th February I saw a pair at Las Coronas.

+ **ELANUS LEUCURUS*. White-tailed Kite.

Specimens in the Museum.

+ **ROSTRHAMUS SOCIABILIS*. Sociable Marsh-Hawk.

Specimens in the Museum.

85. *MILVAGO CHIMANGO*. Chimango Carrion-Hawk.

At Sta. Elena less common than the Carancho at all seasons, but more abundant in autumn than in spring and summer. At the Rio Negro they were more common. Some were remarkably tame; a pair at Sta. Florencia might be seen any morning on the quinta fence, and I saw a pair sitting on the posts of the corral at a puesto on Sta. Elena, quite indifferent to the barking of several dogs which came out at us.

86. *POLYBORUS THARUS*. Carancho Carrion-Hawk.

Common, but not abundant, becoming more so, however, in autumn when the merinos begin to lamb. Two fledged young, with wings and tail half-grown, and an egg also were brought in on the 3rd November. On the 26th November I saw a bird sitting on its nest in the top of a tala bush on an island in a deep laguna of the Arroyo Grande; the nest appeared to be formed of sticks and wool. I was informed that they usually breed on the flat tops of rocks and on the ground; the nests I saw in trees were huge structures. On 7th April I saw five flying together—two of them fighting in the air, uttering harsh croaks, and on the 25th May I saw seven together in the evening.

— 87. *CATHARTES AURA*. Turkey Vulture.

Less common than *C. atratus*, but I saw it both at Sta. Elena and on the Rio Negro. Early in February I watched a pair at Sta. Elena, and on the 27th of the next month a boy brought in a head. The puestéro's boys say this red-headed "Cuérvo" breeds there, and some of the eggs taken in former years are certainly smaller than, and different in shape from, the average ones of the Black Vulture.

— 88. *CATHARTES ATRATUS*. Black Vulture.

Common, although perhaps more so at some seasons and in some years. When I was in the country there was abundant food for them on account of the number of cattle and horses dying in the great drought. They breed, usually, I am told, on the tops of the boulder-rocks. I saw many eggs which had been brought in by the shepherd-boys

(who get so much each for them); but I think the birds breed early, as I found no eggs, and a young bird was brought in soon after I arrived. I have seen as many as eight together, wheeling over the monte. On the Rio Negro they were even more abundant. One day I saw eight sitting round a dead sheep, and on another occasion there were great numbers over the river and settling in the trees; I counted 27 in one dead tree. The cry of this bird is rather like the quavering croak of the Carrion Crow, and this, together with its black colour, may have earned from the first settlers its common name of "Cuérvo."

I saw various Buzzards and one Harrier; but birds of prey generally were much less common than I anticipated, and these are all the species I was able to identify.

— 89. PHALACROCORAX BRASILIANUS. Brazilian Cormorant.

On October 1st I noticed from the ship a good many about Flores Island. They are very numerous in Montevideo Bay. On the 13th, about 6.30 or 7 A.M., a huge thick line of them came in round the city point into the bay, to fish, I suppose; there must have been upwards of a thousand. They were apparently resident on the rivers in the interior, visiting the cañadas to fish, some of the isolated rocks in the bed of these or on the banks being completely white-washed by their excrement. I saw Cormorants either singly or in pairs all the time I was in Soriano and Flores, and on the Rio Negro also. On the 7th April I shot an immature bird and had seen a good many others. Yet I could never discover the birds breeding, although many were adults in very fine plumage.

90. ARDEA COCOI. Cocoi Heron.

This fine bird, which bears a striking resemblance to the common English bird and has very similar habits, was often to be seen, and doubtless breeds. I saw both adults and young, but failed to find them nesting. They were almost as wary as Herons in England. On 8th May I shot, after a careful stalk, a magnificent adult bird, a description of which (as it differs slightly from that in 'Argentine Orni-

thology') may be worth reproducing. Total length 44 inches, wing from carpal joint 19 inches, alar expanse 68 inches.

Top of head and plume lead- (or bluish-) black; rest of head and face pure white; neck all round and all down, including long plumes at foot of neck, white. From below throat a line of black marks down to the long narrow plumes; plumes at base of wing black; breast and belly black, except middle of breast, where feathers are half white. All the breast- and belly-feathers very long, and underparts look all black; flanks, sides, thighs, and under tail-coverts white; primaries blackish lead-colour; secondaries lead-grey; bend of wing white; back and wing-coverts deepish pearl-grey; many of the long narrow scapulars and side-feathers white; tail grey: bill dark yellow, culmen brown; iris yellow; legs and feet blackish horn.

91. ARDEA EGRETTE. White Egret.

I saw the skin of one which was shot at Sta. Ana in the early part of 1892 (*i. e.* in the autumn).

+92. ARDEA CÆRULEA. Blue Heron.

On the 19th December I had a good view of one of these birds as it sat on the bank of the Rio Negro.

93. BUTORIDES CYANURUS. Little Blue Heron.

Not uncommon in the spring and summer, but I do not remember seeing any after February. I have occasionally seen them in open cañadas or rivers, but rarely, as they generally keep to those parts of a river which are fairly well wooded. They habitually perch, not only on bare branches, but also in thick thorny trees. Notwithstanding that many of them were adults in fullest plumage, and the strong probability that they would be breeding, I saw nothing to lead me to suppose that they were. The only cry I heard was a harsh croak uttered on being disturbed. The colours of the soft parts of this lovely little Heron are very striking. Bill dark horn; a short line from base towards eye greenish yellow; lores and bare skin round eye a fine deep cobalt-blue; irides golden yellow; legs dull brick-red orange, colour patchy; soles of feet dull orange.

**ARDETTA INVOLUCRIS*. Variegated Heron.

A specimen in the Museum of Montevideo.

94. *NYCTICORAX OBSCURUS*. Dark Night Heron.

I shot an immature specimen as it sat in a willow on the Monzon on 22nd February. As it sat its body was held in a nearly horizontal position.

95. *EUXENURA MAGUARI*. Maguari Stork.

The locusts visited our part of the country in November, arriving on the 23rd. A day or two after some Storks arrived, but only three or four. I saw one at Sta. Ana on the 29th. Riding from Porongos on the 22nd December, I saw two and another on the wing. About the middle of March I again saw one at Sta. Elena, and on various occasions in that month, April, and May I met with them. When the bird is on the wing the neck is outstretched and deflected. On rising, this Stork puts its head down very low and takes two or three long bounding hops before it gets on the wing. Legs and feet blood-red; bill lead-grey.

+ 96. *TANTALUS LOCULATOR*. Wood Ibis.

Mr. Burgess found this bird breeding on the coast of the other Arroyo Grande, which flows into the Rio Negro from the north, some years ago. The birds were in a small colony, and the nests were on big tumps of grass in a marshy place.

97. *PHIMOSUS INFUSCATUS*. Whispering Ibis.

I met with this species only twice, viz. on the 11th February and 1st April; on both occasions the bird escaped wounded; the first, indeed (at which my companion and I only got flying shots with our revolvers), was found dead a few miles away some days after. It once uttered a low croak when flying.

+ 98. *AJAJA ROSEA*. Roseate Spoonbill.

I saw the skin of one which had been killed on the Rio Negro shortly before.

**PHŒNICOPTERUS IGNIPALLIATUS*. Argentine Flamingo.

A specimen in the Museo de Historia Natural, from Maldonado.

99. *CHAUNA CHAVARIA*. Crested Screamer.

The only example I saw alive was one at a pulperia near the Paso de Navarro over the Rio Negro, which had been caught young near there and was very tame. It repeated its own name "Chajá," and also made a strange, rumbling, hollow, internal sound. It is undoubtedly rare, but Mr. Burgess some years since caught a young bird in that district, and he tells me also of one shot on the Monzon some time ago.

100. *CYGNUS NIGRICOLLIS*. Black-necked Swan.

Mr. Burgess has seen this fine bird in winter on a big laguna near the Estancia Sta. Adelaida. About the 21st April two were shot at the Estancia Miguelette, in Colonia.

**COSCOROBA CANDIDA*. Coscoroba Swan.

One in the Museum was shot at the barra of the Santa Lucia river.

**DENDROCYGNA FULVA*. Fulvous Tree-Duck.

Specimen in the Museum.

101. *QUERQUEDULA CYANOPTERA*. Blue-winged Teal.

I saw portions of specimens shot on the Monzon at Las Coronas; it is said to be not uncommon.

102. *QUERQUEDULA FLAVIROSTRIS*. Yellow-billed Teal.

The commonest Teal. I met with them, generally in pairs, at various dates from the 22nd October to May, but saw no young broods. They were excellent eating in autumn.

103. *QUERQUEDULA VERSICOLOR*. Grey Teal.

Did not put in an appearance until April, and I saw it on a few subsequent occasions; once they were with Shovelers, at another time a bunch of five were by themselves, and at another (a sunny autumn afternoon) we stopped our horses to admire a lovely laguna in which the trees, with which the opposite bank was heavily wooded, were clearly reflected, the smooth water being broken only by patches of broad-leaved water-plants and the rippling track of a very tame Grey Teal, while a Cocoi Heron, which had been perched on a dead branch, flapped slowly down the river. Such scenes do not readily fade from the memory.

**QUERQUEDULA TORQUATA*. Ring-necked Teal.

In the Museum.

**QUERQUEDULA BRASILIENSIS*. Brazilian Teal.

In the Museum.

104. *DAFILA SPINICAUDA*. Brown Pintail.

This is said to be the commonest Duck here; but the year I was out was so dry that we had very few Ducks of any kind. I met with it only on rare occasions from the 1st of March onwards.

105. *SPATULA PLATALEA*. Red Shoveller.

Appeared early in April, and I met with it on a few occasions. The drake is a most beautiful bird.

**METOPIANA PEPOSACA*. Rosy-billed Duck.

In the Museum.

**ERISMATURA FERRUGINEA*. Rusty Lake Duck.

In the Museum.

106. *COLUMBA PICAZURO*. Picazuro Pigeon.

A fairly abundant resident, living in the monte and visiting the chacras for maize both at seed-time and harvest. At these times it is very wary, and reminds one of the Wood-Pigeons at home by setting a sentinel on the fence. In the breeding-season they often frequent the tall gums about estancia houses, where their low deep *coo* may be heard; it is a long grating *ooooook*, followed by *coo-coo-cooooo*. This magnificent Pigeon has the irides bright yellow; eyelids and small space behind the eye crimson; legs crimson. It is known as the "Paloma," and also as "Torcasa grande."

107. *COLUMBA MACULOSA*. Spot-winged Pigeon.

Abundant in the wide monte of the Rio Negro, where it frequents chiefly parts where there are open glades. At Sta. Elena it was much less common, but I have shot it in the rincón of the Monzon and Arroyo Grande. The cry of this bird has a resemblance to that of our large Wood-Pigeon in sound and delivery, but has only three notes, *cooo....ko....cooooo*. The legs and feet of this bird are crimson, not yellow.

108. ZENAIIDA MACULATA. Spotted Dove.

The "Torcasa" is a very abundant bird. Most of them go to the monte to breed, but there are always a number about any estancia where there are trees. At Sta. Elena in early autumn great numbers roosted in the trees, and hundreds could be seen in the morning on the ground round the buildings, collecting especially where the fowls were fed. A good many could be seen, however, in the trees any day in spring or summer, and their quiet *coo* was a common and pleasant sound; it consists of four notes, each of the three last lower in tone than the previous one. They are tame little birds, and I often admired them as they walked about the patio under the trees, close to where I sat skinning birds. They certainly eat a good deal of maize when they get the chance (I took 18 grains out of the crop of one bird), and I think they feed too a good deal on the seeds of the cardoon. The nest is the usual light structure of twigs. On the 23rd November I observed a great number of nests in a part of the monte of the Arroyo Grande where the tala wood was very thick; the birds flew off their nests at every few yards as we made our way through the bushes. The eggs were plainly visible from below.

*COLUMBULA PICUI. Picui Dove.

Specimens in the Museum, and I was assured that it inhabited the gardens known as the Prado in Montevideo, and was found also in the monte, but I never happened to meet with it, though I did so at Buenos Ayres.

109. ENGYPTILA CHALCAUCHENIA. Solitary Pigeon.

This bird, generally known to English sportsmen as the "Monte Dove," is common along the banks of the Rio Negro and (though less so) on those of the Arroyo Grande and Sta. Elena Sáuce where there is any monte; but I have never seen it outside the monte, where it is almost always seen on the ground. I have often watched them quietly picking about under the trees and bushes or on a bit of sand on the coast of the river, and when flushed and settling again they have alighted on the ground. On hot days they

might be seen basking on the ground in open spaces or on a rock near the water. The note is double, and (for a love-song) is the saddest I have ever heard a bird utter. It is simply *cooo-cooo*, the second note lower in tone and sinking in inflection; the whole sound is uttered rather in the way a tired man sighs out "heigho!"

110. *CRAX SCLATERI*. Sclater's Curassow.

The "Pavo del Monte" is still found in small numbers on the Rio Negro. On 14th December I heard the loud reiterated cry of one on the opposite shore of the river, and a few days after had a good view of another in a tree. I was carrying only my small collecting-gun, and while a companion who was carrying a 12-bore was coming up the bird moved, and as we were making our way through some of that abominably thorny acacia known as "Uñas del gato" it must have slipped away in its usual quiet fashion. In this case the loud cry attracted us in the first instance. I was greatly annoyed at not getting a specimen. From what I saw of this example and from descriptions by people who know the bird well, I think the "Pavo del Monte" of Uruguay is of this species. Formerly it was more widely diffused, and I hear that there are still a few in the rincón of the Perdido and Arroyo Grande.

111. *RALLUS RHYTHIRHYNCHUS*. Black Rail.

Common and appeared to be resident, frequenting the cañadas and rivers which have low banks and some growth of rushes and water-plants. When trees and bushes are present these Rails often perch in them, and the first I shot was in a thick moyé bush into which I saw it fly. While possessing the same nervous temperament as the other species of Rail, it is much less shy than our Water-Rail, which (apart from its bright-coloured blue, green, and red bill) it much resembles in appearance.

I was never able to find a nest of this bird, although I often felt sure I was close to one. On 9th November, for instance, I found a pair in a very nervous state on a low green bank of the Saúce, backed on the land side by tall

paja grass. They were quite tame, walking about in their stately Rail-fashion, or running in a crouching attitude among the hassocks for as long as I stayed—probably wishing to draw my attention from the nest. One of them several times snatched morsels of food from a blade of grass or the water's edge. A few days before I saw a pair, accompanied by their young brood, swim across a little laguna from one lot of water-plants to another. Although within two or three yards of them the deep water and boggy ground effectually separated us. The young were of the size of a fowl's egg, and were covered with black down; bill half an inch long and dark-coloured. I met with a late brood of good-sized young in the middle of February. The note of this bird (especially during the breeding-season) is most curious. It is rather explosive; quite short, though it has two distinct sounds, a grunt and a squeak. Perhaps *mechic* or *umchick* would express it, and yet it seems to have only one syllable. This bird also utters sometimes a loud skirling note after sundown. It is known as the "Gallinita."

112. ARAMIDES YPECAHA. Ypecaha Rail.

A friend told me that he had seen this bird on the Perdido during the season I was in the country, and spoke of its loud cries.

†113. GALLINULA GALEATA. American Waterhen.

This bird frequented a certain range of lagunas on the Monzon, well furnished with beds of water-plants, in some numbers all the summer, but it was not until after the rain that it spread about the other streams and cañadas.

114. FULICA LEUCOPYGA. Red-fronted Coot.

I did not meet with Coots until the autumn after the heavy rain at the end of March had filled up the rivers. In April, however, I saw a good many of this and the next species. The Red-fronted Coot, with its smaller head and shield, and its habits, when unalarmed, of carrying its tail (with white lining) erect and of nodding its head forward nearly as much as a Moorhen does, looks like that bird rather than a Coot (I have watched Waterhens and both species of

Coot at the same time). The Yellow-billed Coot nods very little, and shows the white of the tail-lining much less. The present species looks smaller on the water.

115. *FULICA LEUCOPTERA*. Yellow-billed Coot.

The more numerous of the two; a typical Coot in appearance and manners.

116. *PARRA JACANA*. Jacana.

This bird is found on the Rio Negro. Mr. Sloane showed me the wing of one shot there and described the bird.

117. *VANELLUS CAYENNENSIS*. Cayenne Lapwing.

Resident and common; abundant on some camps. They mob the unfortunate human being on all occasions, whether in the breeding-season or not. Sportsmen hate them most heartily, as it is well-nigh impossible to stalk anything if there are any "Téru-Téru" about. Apart from this, the harsh ear-piercing cries become most wearisome and even distressing after a time when you are passing over ground where there are many of these beautiful birds. Even in autumn I have had a bird dash at me time after time as I rode along and come so close that I struck at it with my "revenque" (the short cow-hide whip one invariably carries). The eggs, which are fully as hard to find as our Peewit's, are laid on the open camp, and the breeding-habits seem very similar to those of our bird. For instance, Mr. Burgess rode suddenly on to a pair (11th November), and, disregarding the wing-trailing business of the male, saw the female standing up over a single fresh egg, doubtless waiting for a good opportunity to slip quietly away. The peones say that when a pair find their eggs in danger from a flock of sheep coming in their direction they remain over the eggs, making violent demonstrations, and that the sheep open out when they come to them and close up again when they get past. In the early part of January, when the young were on the wing, they went in flocks. A young one shot on the 9th had colour of soft parts very dull, and wing-spur very little developed, or about 0.2 inch long. Later in the year the flocks broke up again, although little parties of half a dozen

or so might be seen together. They were breeding in November: 11th, one fresh egg; 18th, four hard-set; last days of the month, four fresh. At Sta. Florencia in mid-December, a little flock frequented the chacra and used to go through the strangest antics; they went about in threes a good deal and did much bowing and aimless running about.

118. *CHARADRIUS DOMINICUS*. American Golden Plover.

A visitor in spring for the summer, or rather to escape the northern winter. It is well known as the "Chorlo," but this season it was unusually scarce. The first I saw was on the 31st January, a flock of about twenty. One killed out of a small bunch on 12th March was very fat and assuming spring dress. I did not see any after this date.

119. *EUDROMIAS MODESTA*. Winter Plover.

Breeds in South Patagonia and visits Uruguay for the winter. Riding over to a neighbouring estancia with a friend on the evening of the 29th March, and unfortunately without a single cartridge, having a supply at the house I was going to, I got quite close to a flock of these little Plovers in winter dress. When put up they wheeled and turned just like small Golden Plovers. My friend knew them, and had seen them when they had the dark breast-band. They did not stay and I could not find them again.

120. *ÆGIALITIS COLLARIS*. Azara's Sand Plover.

On 19th December I met with half a score of these little birds on a shingly and sandy beach (more extensive than usual on account of the lowness of the river) on the coast of the Rio Negro. They were very difficult to see among the stones, running very quickly, with the actions of our Ringed Plovers. They did not appear to be breeding (possibly they had finished), but I only procured an adult specimen, losing another in the river, and I had no time for a prolonged search. The note of the bird when on the ground is a single *tit*, repeated sometimes more than once; on the wing it is "*tit-eee, tit-eee.*"

121. *OREOPHILUS RUFICOLLIS*. Slender-billed Plover.

Another Plover which breeds in South Patagonia and comes north for the winter. On the 18th May I saw a small bunch in the camp at Sta. Ana, but they were so wild I could not get a shot. They uttered a few whistles, quite different from that of the Golden Plover, on rising. On the following Sunday I saw them again when riding without a gun, but a long search next morning was not rewarded. There is a local specimen in the Museum.

**HÆMATOPUS PALLIATUS*. American Oyster-catcher.

A specimen is in the Museum of Montevideo.

122. *HIMANTOPUS BRASILIENSIS*. Brazilian Stilt.

Mr. Burgess tells me he has met with this bird once or twice; it is known as the "Téru-Téru real."

123. *GALLINAGO PARAGUALE*. Paraguay Snipe. (Plate V. fig. 8, egg.)

Resident apparently, though much more common at some seasons than others. Their comparative abundance probably depends upon the rainfall. In the latter half of October they were common along marshy cañadas and in similar places on the Saúce. They were evidently there for breeding purposes, as they were tame, often gave you a view of them on the ground, were constantly "drumming" in the air, and on the ground uttering a note like *chuttuk*. The females (?) cried "*chuttuk*" or "*chuk-chuk-chuk*" on rising. The sound of the drumming differs from that produced by the English Snipe; it is a long shaking *kurrrrrrr* (the sound can be reproduced to some extent in the back of the human throat); sometimes it varies to a deep low-noted hollow *gurrrrrr*, and, like our bird's drum, is audible at a considerable distance.

The Snipe, when drumming, is said to be calling for water, but I forget the exact name used for the bird. I often searched for the nest among the tall grass and herbage on the boggy banks of cañadas where I flushed Snipe, without success, but on the 23rd November, when galloping home with a companion through some low *paja* near the Saúce on Sta. Ade-

laida, a Snipe fluttered from under my horse's feet ; this was thirty yards at least from the river and quite dry ground. The nest was in a tuft of *paja*, formed of a few grass-blades, and contained two fresh eggs. By Christmas all, or nearly all, the Snipe had disappeared from the neighbourhood, the country having become excessively dry. A very few put in an appearance about the end of February and early in March, but it was not until early April (after a heavy rain-storm) that we saw any great number. All through that month and in May they were rather numerous, although more plentiful on some days than on others. Their habits at that season almost exactly resembled those of our bird. The cry on rising was "*quirk, queak*," or "*quir-eak*."

It seems just possible that some of these Snipes which visited us in autumn may have bred at that season. At all events I noticed that in May, while most of the birds remained more or less wild, as autumn Snipe are, some were tame and behaved exactly as others did in spring. In the early part of May we had some very fine warm weather, and it was on the 1st of that month that I first noticed Snipe drumming in the autumn just as they did in spring ; I observed this during the day as well as at sundown for a fortnight afterwards, but in the cold period which followed I did not notice them, and I left about the end of the month. In the first week I saw two or three supposed pairs, and on the 8th I observed one pair especially, where the *Sauce* ran swiftly through low green banks, sheltered by higher banks, tall *paja*, &c., and was studded with green islets. The pair, on being disturbed, settled on the short green turf in full view, the male rising again, but the female remaining on the ground uttering a loud *chuk chuk chuk* continuously (rather like the alarm-call of a hen Partridge which has small young in the grass) for some time, then rose and flew a few yards with upraised wings, and, alighting again, continued calling. When on the wing her note was a rapid *tuka tuka*. Meanwhile the male was drumming loudly overhead. I could also that afternoon (had I been so inclined) have shot a few other Snipe on the ground, but at the same time the rest of the

birds seen (a considerable number) had their winter habits and were rather wild.

† 124. *TRINGA BAIRDI*. Baird's Sandpiper.

On the 3rd April I met with a party of five small *Tringæ* in a part of the Saúce where it was wide and shallow with low underbanks. I believe they were of this species, but the only one I knocked over managed to hide itself effectually. The next day I shot a female from a boggy bit higher up the river where I often shot Snipe. She rose silently and had somewhat the appearance of a small Snipe; the food in the stomach was the remains of small coleopterous and other aquatic insects.

125. *TOTANUS MELANOLEUCUS*. Greater Yellowshank.

I saw an example of either this species or *T. flavipes* (I think the latter) on the 20th October. In autumn this species appeared; one shot on 3rd March from a cañada was extremely fat. Just a month later I shot one of a pair, and a day or two after saw another. The note is very loud and powerful, somewhat resembling that of the Greenshank, sometimes triple, but generally quadruple.

126. *RHYACOPHILUS SOLITARIUS*. Solitary Sandpiper.

Probably a visitor for the northern autumn and winter, remaining into spring. It was not common, but I saw and shot specimens at various dates between 23rd November and 4th April, on which date I saw two and shot one of them. They like shallow spots in a river where there is some monte and an open space in it, but one haunted the shelving bank of a little open cañada. Once or twice I saw it in just such a place as you expect to find our Green Sandpiper inhabiting in summer. The habits of the bird are much like those of the last-named bird; its note, too, is somewhat similar, but is not so loud and full, intermediate perhaps between the notes of the Green and Common Sandpipers.

127. *ACTITURUS BARTRAMIUS*. Bartram's Sandpiper.

Comes from the northern to "winter" in the southern continent, where it arrives in spring-time. The first I saw

was on the 17th November, and two days after I found eight in a little potrero close to the house in which there was a quantity of cardoon. They prefer the drier parts of the camp, but like a place where there is a quantity of cardoon or scattered tufts of low *paja* among which they can run and obtain shelter. I observed a good many near Porongos in December, and early one morning saw one perch on a fence-post. They run very fast, and although in November and December I found them fairly tame and difficult to flush by a man on horseback, even when pressed within a yard or two's distance, by the middle of January they had grown both wild and fat. When not much alarmed they may be seen nodding their heads and swaying their rather long tails up and down after the manner of a Common Sandpiper, but in a much more slow and leisurely fashion. In flight the long wings are raised rather high above the line of body. The note is somewhat mellow, sounding like "*whit-e-wit*," and is uttered on rising and in flight. On the 23rd February I made a note to the effect that there were some "*Chorlitos*" still here, but that they were wild. For the last fortnight I had heard them flying over singly, by day and by night, passing north. On 3rd March I noted that there were still some, but only a few. This bird is known as "*Chorlito*," and it has indeed a great resemblance to Plovers in its habits. I usually met with it in small parties, though they often rose singly and went off in different directions.

*NUMENIUS BOREALIS. Esquimo Curlew.

One in the Museum.

128. STERNA HIRUNDINACEA. Cassin's Tern.

I saw a Tern off the coast of the Banda Oriental on the afternoon of 1st October which was, I am pretty sure, of this species. On 10th June, when off the coast, I observed a small flock of the same. This was in the forenoon; at noon we were 113 knots distant from Montevideo.

129. LARUS DOMINICANUS. Dominican Gull.

There were many in Montevideo Bay on the 2nd October and on subsequent occasions, both adult and young. The

legs of the adult in life have a very yellow cast on the olive. On the 1st May, about sundown, I saw fourteen passing over Sta. Ana, low down, going south, and shortly after at least a hundred Gulls of the same size higher up. Cold S.W. winds about that time.

130. *LARUS MACULIPENNIS*. Spot-winged Gull.

On the 2nd and 3rd October there were some adults of this Gull in Montevideo Bay, though birds in winter and immature dress were far more abundant. They remind one of the Black-headed Gull. In autumn they appeared in the camp. On the 20th April I saw two close to the estancia, and from that time they might often be seen about the camp, sometimes sitting on the carcass of a sheep or cow from which the hide had been taken. On 20th May I shot an adult with a lovely rosy flush on its breast. A few days after there were a great many about the estancia. The cry resembles that of our English species.

131. *LARUS CIRRHOCEPHALUS*. Grey-capped Gull.

On the 2nd and 3rd October there were some adults in spring dress in Montevideo Bay, and possibly some in immature and winter dress also. This is a beautiful Gull. Mantle and wings darkish pearl-grey, latter black-tipped, the underside of wings a fine dark grey, giving it a curious appearance. The bird looks ring-necked in the distance, as the grey cap is much darker on the nape and throat than on the face; legs and feet deep red.

132. *ÆCHMOPHORUS MAJOR*. Great Grebe.

I saw this Grebe on the following occasions :—1st October; off coast of Banda Oriental, near the Castillo Rocks. 9th October, when in quarantine in Buenos Ayres Roads, River Plate, one passed alongside; the divided black crest partly erected; not adult, as the neck in front and breast were white. 13th October, about 6.30 A.M., before disembarking from the river-boat 'San Martin,' I saw a pair among the shipping in Montevideo Bay. 10th June, one at sea early in the afternoon, still off the coast of the Banda, but only sighting one low mountain-top.

133. *PODICEPS ROLLANDI*. Rolland's Grebe.

Not seen until 7th February, when I shot a female on the Arroyo Grande, but it is quite possible that it may have escaped notice on some of the larger lagunas. In April (after the rain had filled the rivers and cañadas) and in May it became common, and on one occasion I might have killed three at one shot. They are wonderfully tame (for Grebes), and I often watched them from a very short distance. In early April the crown-feathers were elevated and the cheek-tufts erected; a month later the whole facial ruff was quite apparent. The iris is of a bright crimson, veined with very narrow black lines.

**SPHENISCUS MAGELLANICUS*. Jackass Penguin.

In the Museum of Montevideo, from Maldonado.

134. *DAPTION CAPENSIS*. Cape Pigeon.

1st October, when off the coast of Banda Oriental (34° 12' S. lat., 52° 54' W. long., at noon) this species was still with us.

135. *PUFFINUS GRISEUS*. Sooty Shearwater.

Observed off the coast, near the Castillo Rocks, on the 1st October; again on the 10th June.

136. *PELAGODROMA MARINA*. Frigate Petrel.

About noon on the 10th June, when 113 knots from Montevideo, homeward bound, I saw a Petrel which I believe to have been of this species. I observed the same species subsequently off the island of Palma; but in the latter case I saw four or five and was almost certain of their identity.

137. *RHYNCHOTUS RUFESCENS*. Great Tinamu.

The *Perdiz grande* is now becoming very scarce in the neighbourhood of Sta. Elena, and would be still more so but for the fact that the owner of that estancia preserves them carefully. There are a good many still, I believe, on the estancia Los Altos on the Perdido, and at Sta. Florencia on the Rio Negro, where they are often found in open glades in the monte; I flushed seven there in one day. At Sta. Elena, however, I once chanced to flush six in a morning. Except when they come out on to the higher ground (generally in the morning and late in the afternoon) to feed, or

wander as far as the maize-chacras after harvest, they are seldom found far from water and cover. The usual place to meet with them is in the pajonales along the edge of the monte, into which they are apt to run when disturbed. At the same time I have often seen them, morning and evening, out in the open camp where there is a little low, thin paja, and I once (in autumn) put one up in the quinta at Sta. Elena. On being put up they always make straight for cover and will fly over a "gun" if he happens to be in the direct line of flight. They make a loud noise on rising and beat the wings rapidly at first, a curious sound being produced during flight by the wings, which then beat rather less rapidly than those of the Spotted Tinamu. At close quarters a low whistling note may sometimes be heard as the bird flies away. After the *Perdiz grande* has flown a little away it sails on motionless wings, but in long flights it has to flap again at intervals as the *Perdiz chico* does, but the intervals between the flappings are shorter perhaps. The "big Partridge," as Englishmen generally call it, will fly as much as 200 or 300 yards or more to gain the monte if the ground slopes down to it, as it generally does. When surprised in open places they walk away rather slowly, but take the first opportunity of slipping into cover; if they are pressed, then they rise. They permit a very near approach by a man on horseback, and sometimes require pushing closely before they will rise. They "swagger" somewhat in their walk, unlike the "small Partridge." The usual note is a whistle, lower in tone than that of the small Partridge. I found in one some small bulbs of a little plant, common in the camp, which would require digging up, and the bird's beak was covered with earth. One which I killed on the Estancia Sta. Adelaida weighed $2\frac{3}{4}$ lbs., but about 2 lbs. is a more usual weight, I believe. The thanks of naturalists are due to Señor Don Felix Buxarco for his endeavours to preserve this fine bird. In Southern Argentina this bird is called the "Martineta," but in Montevideo market that name is applied only to *Calodromas elegans*, which is not found in Uruguay.

138. *NOTHURA MACULOSA*. Spotted Tinamu.

Abundant, especially on Sta. Elena camp, where they are preserved to some extent. I have nothing new to add to what has been written about its habits, but the following dates of nests may be of interest. It should be stated that the spring of 1892 was a late one; this may have been due to the seca, which perhaps also accounted for the irregularity in the Partridges' nesting:—

21st October, nest of two eggs—the first which had been found. 25th October, nest of three eggs. 28th October, nest of four, hard set. 29th October, nest of four. 3rd November, nest of four, nearly fresh. 7th November, nest of five, fresh. 9th November, nest of five, fresh. 17th November, in the evening, I stumbled into a brood of young getting their feathers; head and neck still in down, dark brown lined with pale buff; a line starting at base of beak and forking into two; neck with the buff lines broader than the dark brown ones; body mottled buff and dark brown, with some little narrow white marks. 24th January, nest of five eggs. Third week in February, two nests with eggs. 21st February, old bird brooding over one very small young one. I have known six and seven eggs in some cases, and have heard of nests with eight.

139. *RHEA AMERICANA*. Common Rhea.

When the country was fenced, the Ostriches were confined in the different potreros, many of which are of large extent, and here they continue in a wild condition. Their numbers in different camps differ greatly according to the amount of protection or persecution they have received. At Sta. Elena the owner has always taken care of them, and they are not driven and plucked; they are accordingly abundant. Ostriches often charge the fences, and occasionally either get through or get hung up and killed. This occurs only when the birds are much alarmed, by cattle being "rounded up" for instance, and more especially on those camps where the birds are, or were, periodically caught and

partly plucked. The native name is Ñandú, but the bird is now, I believe, only known as the Avestruz.

IV. EXPLANATION OF PLATE V.

Eggs of the following Species.

- Fig. 1. *Anthus correndera*, p. 163.
 2. *Atticora fucata*, p. 167.
 3. *Tænioptera nengeta*, p. 175.
 4. " "
 5. *Hydropsalis furcifera*, p. 188.
 6. *Colaptes agricola*, p. 189.
 7. *Podager nacunda*, p. 186.
 8. *Gallinago paraguaia*, p. 207.
-

XIV.—On some Birds collected in the Vicinity of Foochow.

By C. B. RICKETT, F.Z.S. With Notes by HENRY H. SLATER.

THE following article is intended mainly as a supplement to Mr. de La Touche's paper on the "Birds of Foochow and Swatow" (Ibis, 1892, pp. 400, 477). I do not therefore include in the list any of the birds mentioned by him, except in the rare instances where my experience differs from his or in order to record further occurrences of the rarer species.

I have been collecting birds for a period of nearly four years in this district. My collecting-ground extends from Sharp Peak (at the mouth of the river Min) to Shuikow (which is about 70 miles above Foochow), and up the valley of the Yuen Fu.

Mr. de La Touche (in the paper above referred to) has described this part of the country so fully that it is unnecessary for me to say more on the subject.

He has omitted, however, to give any details as to the climate. These, thanks to the courtesy of Mr. H. A. McInnes, of the Imperial Maritime Customs at Pagoda Anchorage, I am now able to append in a condensed form.

Average of Temperature &c. for the Years 1888-1892.

Year.	Thermometer.		Thermometer readings.				Barometer.		Rainfall in inches.
	Max.	Min.	Highest.		Lowest.		Max.	Min.	
1888.	75°·6	60°·0	4th & 5th Aug., 101		4th Feb., 38		30·28	29·88	63·12
1889.	72·7	59·4	11th July, 101		11th Feb., 31		30·28	29·94	38·33
1890.	75·0	59·4	3rd July, 100		1st & 4th Jan., 39		30·27	29·94	46·43
1891.	74·0	59·0	3rd Aug., 99		10th Feb., 30		30·28	29·97	57·68
1892.	73·4	60·5	14th Aug., 100		14th March, 31		30·28	29·98	58·09

Instruments 30 feet above the sea.

The rainy season may be said to extend from January to June. The heaviest rainfall in the last five years took place in August 1888, when 20·14 inches fell in the month.

The extraordinarily cold "wave" that passed down the coast in January this year deserves a passing notice. On the 15th of the month the temperature in Foochow began to fall, and there was a little sleet in the afternoon. The next morning, on awaking, we found the country covered with snow to the depth of two or three inches, and more falling (in large flakes), which continued till about 10 A.M. It was rapidly thawing on the 18th, and by the 19th the snow had nearly all disappeared. Nothing approaching such a fall has occurred within the memory of man. The minimum thermometer-readings at that time were: 15th Jan., 25°; 16th, 29°; 17th, 27°; 18th, 29°; 19th, 33°. These were noted in the verandah of our house, but in one close by, with a verandah facing north, a minimum temperature of 23° was noted on the night of the 15th.

Before proceeding with my list I have just a word or two to say regarding the following six species, which are included in Mr. de La Touche's catalogue:—

1. *DRYONASTES SANNIO* (Swinh.). (La Touche, Ibis, 1892, p. 414.)

De La Touche says, "doubtless a resident." This is correct. I came across a young bird in May 1892 when up the Yuen Fu. It was sitting on a path, uttering a note sounding like *teheû*. I tried to catch it, but it fluttered into the bushes and escaped. This year I obtained two (also up the Yuen Fu). They were able to fly a little, and in plumage resembled the adults, but duller.

2. *LANIUS SCHACH*, Linn. (La Touche, Ibis, 1892, p. 423.)

I found a nest of this species up the Yuen Fu on the 19th May this year. It was built in a prickly bush, about 6 feet from the ground, and composed of fine twigs, roots, the feathery tops of a grass, and a few fern-fronds.

The eggs, five in number, were slightly incubated. They measure $1.05 \times .75$ inch. Cream-colour, spotted and blotched with light brown and pale mauve. I obtained a young bird of this species in the first week in June.

3. *EMBERIZA PUSILLA*, Pall. (La Touche, Ibis, 1892, p. 427.)

Mr. de La Touche says, "not uncommon on the hills during the winter"; from which it might be inferred that this Bunting does not occur on the plains, whereas I have found it to be very common in gardens and among bushes near water.

4. *CAPRIMULGUS JOTAKA*, T. & S. (La Touche, Ibis, 1892, p. 477.)

A female I shot on the 18th May, when up the Yuen Fu, was showing signs of the breeding-season, the largest ova being about the size of a No. 5 shot. The stomach contained eight beetles and a moth.

5. *EURYNORHYNCHUS PYGMÆUS* (Linn.). (La Touche, Ibis, 1892, p. 499.)

Here my experience differs from La Touche's. He says: "Seems to be a regular autumn migrant on the Foochow

coast, but it is not abundant." I have found it far from uncommon in September, October, and May.

6. *POMATORHINUS SWINHOEI*, A. Dav. (La Touche, Ibis, 1892, p. 414.)

I procured a specimen of this species up the Yuen Fu on 18th May this year. It was shot on a hill-side covered with scrub and small bamboos, with a few scattered young firs. The stomach contained ants and small beetles. The ovaries not at all developed.

I now proceed to remarks on species additional to Mr. de La Touche's list.

SUYA SUPERCILIARIS (Anders.).

Two obtained in May up the Yuen Fu.

[Hitherto recorded only from Yunnan and the hills of Burmah and Tenasserim. This example from Foochow does not agree in one respect with Davison's description (Str. F. 1878, p. 1), viz. "upper mandible black." In the (dried) example Mr. Rickett sends me the upper mandible is brown, with dark ridge and tip.—H. H. S.]

LOCUSTELLA LANCEOLATA (Temm.).

One specimen dated October.

GRAUCALUS MACII, Less.

Obtained in January and March.

[The specimen that Mr. Rickett has sent me is *G. rex-pineti*, with throat and upper breast deep grey, almost black,—instead of light French grey—and culmen 0·91, *vice* 1 inch. It has, however, no trace of buff on the under wing-coverts and axillaries, which Dr. Sharpe (B. M. Cat. iv. p. 24) relies upon as a distinguishing feature, but which may probably prove a sign of immaturity.—H. H. S.]

CAMPOPHAGA MELANOPTERA (Rüpp.).

Dated May, June, and August.

HEMIXUS CANIPENNIS (Seebohm).

Dated January and March.

✱ *LANIUS FUSCATUS*, Less.

I have obtained five skins of this species, all dated December and January. On the 18th of May this year I was up the Yuen Fu with my collector. I was walking along the foot of a low spur covered with thick scrub and small firs, and he on the ridge. I was watching a *L. schach*, which from its loud cries and restlessness I suspected had a nest in the neighbourhood, when it was suddenly joined by a bird which I felt sure was *L. fuscatus*. I was on the point of crossing over to shoot it, when my man called out that he had found a young Shrike hardly able to fly. I went to the spot and found the bird sitting on a small tree. On catching it in my hand it uttered a loud harsh cry, and the two birds immediately redoubled their outcries, flitting from bush to bush in an excited manner. Just then another native I had with me called out that *he* had found a young bird. It uttered the same cry on being caught, and the two old birds then flew straight towards us. My collector for the first time saw the dark bird, and said "Black Shrike" (his name for "*L. fuscatus*"). Having left my gun below, I told him to shoot. It fell, but, most unfortunately, only winged, and in spite of our efforts we failed to find it in the thick underwood. He knows *L. fuscatus* well, and both he and I feel sure that the lost bird was of that species. There was no other Shrike about that we could see or hear. The circumstances of the case seem to me to be worth recording, though the unfortunate loss of the bird renders the evidence rather weak. *L. schach* was very bold and fearless, approaching so near that I could have struck it with my hand.

The young birds had been fed on beetles and grasshoppers. I also found in their stomachs some small bones (? of young birds).

The following is a description of these young birds:—

Head and neck above mouse-colour tinged with brown; throat and fore neck greyish mouse-colour; lores, feathers just at the base of the upper mandible, line under the eye, and the ear-coverts black; back, scapulars, breast, belly, and sides reddish brown, with narrow black bars; rump un-

barred. The tail (which is 1 inch in length) black, feathers tipped and edged with light reddish brown. Wings black, some of the coverts slightly tipped and tertials broadly edged with reddish brown. Irides brown.

[It is quite possible that the case Mr. Rickett records is a genuine example of hybridism. But the specimen he sends me (shot in June) affords no confirmation of it. It agrees exactly with the description of those shot in May, but I can see no traces of *L. schach* in its plumage, and especially in one respect, which appears to be conclusive. All Shrikes which have a white alar speculum seem to show it at a very early time of life. This is so in *L. rufus*, *L. collyrio*, and markedly so in *L. schach*. But this example which Mr. Rickett sends me shows no white whatever; the primaries have not a trace of white base. I feel sure that, whatever those seen by Mr. Rickett on May 18th may have been, this one, shot in June, is a young *L. fuscatus* of pure blood. It might, however, be well to point out that Swinhoe (and, before him, Pucheran, Arch. du Mus. 1854-55, vii. p. 368) was inclined to look upon *L. fuscatus* as a melanic form of *L. schach*, but having found the two side by side at Amoy, Hongkong, and in Hainan, Swinhoe abandoned the idea. He was no doubt right in so doing, for a common melanism is likely to occur wherever the ordinary type is found, and Mr. Styan has found *L. schach* commonly, and *L. fuscatus* never, in the Yangtse basin. These two birds are, no doubt, like the Carrion and Hooded Crows, nearly related birds which hybridize (see Ibis, 1870, p. 241).—H. H. S.]

LANIUS SPHENOCERCUS, Cab.

I have the skin of one dated January, and saw another once when up the Yuen Fu. I had no gun with me, but stalked up to within a few yards of it.

LANIUS BUCEPHALUS, T. & S.

Two skins, dated October and January. I saw another one in February.

PERICROCOTUS FRATERCULUS, Swinh.

One dated January, and ten obtained in February this year. My collector came across a small flock of them near Shuikow, and says he had no difficulty in shooting them all. The central tail-feathers of the adult males are entirely black.

[Mr. Rickett sends me a male and female doubtfully labelled "*fraterculus*" (= *elegans*, M'Clell.). The male has no trace of red whatever on the central rectrices, and is therefore *P. speciosus*, matching in all respects a male from Sikkim which I have.—H. H. S.]

+STOPAROLA MELANOPS (Vig.).

One skin, dated January.

TERPSIPHONE INCII (Gould).

I have no specimens of *T. affinis* with which to compare my skins, but if they are *T. incii*, then this species undoubtedly assumes a white plumage. My skins are dated April, May, and June. On 27th May my collector shot a female, from the oviduct of which he tells me he took an egg, but as the shell had not formed he threw it away. He tells me he once took a nest of this species near Shuikow containing three young, which he tried to rear, but without success.

[*Terpsiphone incii* (Gould). The above aberrant individual, which Mr. Rickett has kindly sent me, is a very interesting bird, especially in view of Dr. Sharpe's opinion that this bird never puts on the white dress (B. M. Cat. iv. p. 351). In this example there is one outer tail-feather which retains a good deal of chestnut. In measurements it corresponds exactly with red specimens of *T. incii* in my collection.—H. H. S.]

TERPSIPHONE PRINCEPS (Temm.).

I shot a fine male in the garden on 29th April this year. It had only one long tail-feather, which measures 9 inches, wing 3.5. Bill tipped with black to the extent of about $\frac{1}{10}$ inch. Testes developing.

HIRUNDO ERYTHROGASTRA, Bodd.

A fine specimen, shot in the first week in June. Forehead and throat very deep chestnut, the rest of the underparts a lighter red. The chest-band narrow, but complete. Wing 4·6 inches.

CYPSELUS PACIFICUS, Lath.

I have two skins, dated April and May.

FRINGILLA MONTIFRINGILLA, Linn.

Dated November and January. The November skin was that of a bird my collector obtained from a fisherman, who said he came across a very large flock on one of the islands just outside the river. They were sitting quite still on the ground, and allowed him to walk close up to them. He killed this one with a stone.

CUCULUS STRIATUS, Drap.

One shot in May.

HIEROCOCCYX SPARVERIOIDES (Vig.).

A male shot near Yen Ping Fu in April. Wing 9·5 inches. [Captain Shelley (B. M. Cat. xix. p. 232) gives the length of wing in this bird as 8·1 inches. Mr. E. W. Oates (B. of B. Burmah, ii. p. 108) quotes it as 9. Even this is often exceeded. Besides Mr. Rickett's specimen above mentioned, I have a Chinese example measuring 9·25.—H. H. S.]

EUDYNAMIS MALAYANA, Cab.

One brought to me in June, in adult male plumage, except some of the quills and tail-feathers.

HALCYON COROMANDA (Lath.).

A beautiful specimen (fresh shot) was brought to me in May.

STRIX CANDIDA, Tickell.

This Owl was shot by a gentleman near Shuikow in December 1889. It was flushed by his dogs from among some long grass in the course of a day's Pheasant-shooting.

[I do not know what else to call this bird, which Mr. Rickett

has kindly sent me. It has no vermiculations on the back, and its measurements point to *S. candida*, which is also suggested by the locality where it was found. But the face and upper surface are of so pronounced a buff tint as to resemble rather *S. capensis*. There is no specimen at S. Kensington anything like it in this respect.—H. II. S.]

OTUS VULGARIS, Fleming.

My collector shot one on this island (Mantai) in February.

FALCO MELANOGENYS, Gould.

Two skins, dated September and January, I assign to this species.

[I have recently made, with Mr. Styan, a careful examination of the fine series of Falcons in the British Museum collection. All the Chinese Peregrines seem to be referable to *F. communis*. Mr. Rickett's example represents the variety which Mr. Hume named *atricaps*.—H. H. S.]

MICROHIERAX MELANOLEUCUS, Blyth.

I have thirteen skins of this species, dated January, March, April, August, and December. It will be seen from the subjoined notes thereon that the white spot on the upper back, which was supposed to mark *M. sinensis* as a species, is present to a very varying extent in some, and as often as not is entirely absent :—

- (a) Two feathers on upper back have each a white spot about .2 inch in diameter, only visible when the feathers are disturbed.—January. Wing 4.3 inches.
- (b) Has three feathers, each with a white spot about .4 inch. Not very conspicuous.—December. Wing 4.3 inches.
- (c) One feather marked with a white spot, which occupies the greater part of it.—December. Wing 4.6 inches.
- (d) Half a dozen white-spotted feathers, forming a conspicuous mark.—December. Wing 4.7 inches.
- (e) Four or five white-spotted feathers. Not conspicuous when the overlying feathers are undisturbed.—January. Wing 4.7 inches.
- (f) Six or seven white-spotted feathers. Very conspicuous.—August. Wing 4.25 inches.
- (g) Two or three small spots. Hidden by overlying feathers.—♀. April. Wing 4.7 inches.

- (h) No trace of white spots.—♀. December. Wing 4·65 inches.
 (i) Ditto.—December. Wing 4·1 inches.
 (j) Ditto.—♀. March. Wing 4·65 inches.
 (k) Ditto.—December. Wing 4·65 inches.
 (l) Ditto.—♂. April. Wing 4·3 inches.
 (m) Ditto.—August. Wing 4·6 inches.

This is not an uncommon species about Shuikow, from whence all my skins have been obtained, except one shot on this island and one a few miles up the Min. Usually feeds on insects. The only one I have personally dissected was the one shot here. It was a female, and had the remains of a small bird (apparently *Zosterops*) in the stomach. Collector says they breed in April.

† *HALIAËTUS ALBICILLA* (Linn.).

One in nearly adult plumage, dated September.

BUTORIDES JAVANICA (Horsf.).

I have only two skins of this species, dated June and September. It seems to be uncommon.

† *CICONIA NIGRA* (Linn.).

A bird of this species was bought from a native (in the flesh) by my collector. The man who sold it said it had been shot near here, but it might have come down in a steamer from Shanghai. This was in November.

IBIS MELANOCEPHALUS (Lath.).

I have one specimen, shot near the mouth of the river in November. It is immature.

CYGNUS BEWICKII, Yarrell.

My collector shot four Swans in one of the bays on the coast, south of Sharp Peak, in January. I was rather surprised that the severe cold this year did not drive some of these birds in here.

† *CHAULELASMUS STREPERUS* (Briss.).

The extreme cold added this species to the Foochow list. My collector shot three males and one female on 18th January, a little way down the river. I shot one (male) and lost another out of a lot of about a dozen that rose out of a little

creek on Green Island (a small, flat, partially cultivated island right opposite the settlement), and saw one or two others for sale in the streets.

DENDROCYGNA JAVANICA (Horsf.).

This, I think, is only the second instance of this bird's occurrence in China. It was shot near Sharp Peak in November.

+ *EUPLOCAMUS NYCTHEMERUS* (Linn.).

On the 9th January this year a native was offering two fine males for sale in the streets, and on 24th February my man bought one from a man who said he had shot it three or four days previously. These birds all came from Yen Ping Fu.

HYPOTENIDIA STRIATA (Linn.).

One shot on 10th May. Wing 5 inches, tarsus 1.6.

GRUS VIPIO, Pall.

A fine female, shot down at the river mouth by a native wildfowler in February this year.

OTIS DYBOWSKII.

A specimen of this was bought by my man at the same time as the Black Stork. I believe that Mr. de La Touche has since received the skin of one from here. There is no reason why they should not straggle down here now and again.

+ *LIMOSA UROPYGIALIS*, Gould.

Two shot near Sharp Peak in October 1889.

+ *COLYMBUS ARCTICUS*, Linn.

Two skins, dated February and March.

+ *ALCA UMISUZUME* (Temm.).

Three of these birds were shot by a fisherman outside the river in April.

PROCELLARIA sp. inc.

Two shot outside the river by the man who got the last birds. They were obtained in July.

[One of these is perhaps the most interesting of the

birds that Mr. Rickett has sent me. It is *Procellaria monorhis* (Swinhoe) (Ibis, 1867, p. 386), of which hardly any specimens are in our collections. The type is in the British Museum, and, aided by Mr. Salvin, I have compared the skin sent by Mr. Rickett with it. The measurements of the latter are worth recording :—*Skin*, date July 1892 ; sex not recorded. Total length 8·1 inches, culmen ·53, wing 6·5, tail 3·15 (central feathers 2·5), tarsus ·95.—H. H. S.]

⌞*PHALACROCORAX PELAGICUS*, Pall.

I obtained three specimens, shot by a fisherman outside the river in January. He states they are not uncommon at times.

[In addition Mr. Rickett has sent me a Grebe's skin in winter dress, correctly labelled *P. holboelli*=*griseigena*.—H. H. S.]

XV.—*On a Birds'-nesting Excursion to the North of Norway in 1893.* By HENRY J. PEARSON and EDWARD BIDWELL.

A SHORT account of a nesting-trip to the North of Norway made this summer may be of interest to the members of the B. O. U., and we therefore send a few particulars. We left Bergen early on the morning of June 2nd, accompanied by Mr. Charles Pearson. The mail steamer on which we travelled kept inside the islands and up many of the fjords, but from its deck we saw few birds of interest. The Common Herring and Lesser Black-backed Gulls were frequently observed. Greater Black-backed Gulls were fairly numerous. Oyster-catchers were feeding on many of the small islands, and Black Guillemots were generally in view. Eiders (now protected by special legislation) were in numbers round every small village, though rarely seen far away from human habitation. A few Red-breasted Mergansers and Grey Lag-Geese were observed, and in Raanen-fjord we had a good view of an Eagle. We reached Bodö at midnight on June 6th, and, as the steamer was timed to stay four hours, we landed and walked to a small wood at the back of the town. Here we were fortunate in seeing

several interesting birds, such as the Red-spotted Blue-throat, Mealy Redpoll, and Blue-headed Wagtail. On June 7th we visited Botnfjord, and spent the greater part of the day in the woods at the head of the fjord; but we were evidently too early for small birds. Fieldfares' were the only nests we found with eggs. The next day we explored Grundfjord, but with little better result. On June 9th we landed at Aedfjord, and visited three of a chain of lakes. A walk of a good many miles through woods and by a river-bank only produced a nest of the Pied Flycatcher with six eggs. We were told by an old native that the small birds generally nest there about June 24th, and we concluded also that the exceptionally heavy snow of the late winter had retarded their nesting; so we decided to turn our attention to shore-birds.

On June 10th we landed on an island at the entrance to Grundfjord; here we were more successful, finding eggs of Meadow Pipit, Whimbrel, Willow Grouse, Red-throated Diver, and Common Gull. That night we steamed for the Lofoden Islands, where we stayed four days; but only on one of the islands visited did we find many eggs, and this island differed from the others that we landed on, in that it had a large area of low-lying ground. This tract, overgrown with *Empetrum nigrum*, cloudberry, and moss, was interspersed with small pools, and several good-sized lakes. In three of the lakes there were islands. As our outfit included an india-rubber boat, we were able to row to them, and thus obtained a number of eggs of the Common Gull, and three nests of the Black-throated Diver. One of the nests of the former contained an egg of a duck, with two eggs of the Gull; most of the Gulls' nests had three eggs. This was probably the first time these islets had ever been visited in the breeding-season.

On June 17th we reached the Porsangerfjord, where we stayed until the 24th, visiting several of the islands, and making two excursions on the mainland. On June 26th we left Hammerfest on the Norwegian tourist steamer, and finished our nesting, with the exception of the three hours

the steamer stayed at Tromsö, and two hours, when the steamer landed her passengers to see the Svartizen glacier. We visited the museums at Tromsö, Trondhjem, and Bergen. The first contains a small but interesting collection of birds, including a beautiful albino Blackcock, shot in the district, with only two small black feathers, also a buff-coloured Blackcock. We saw there the eggs and young in down of the Ivory Gull, which were figured in 'The Ibis' in 1888 (p. 440). Unfortunately the hybrids between the Black Grouse and the Willow Grouse had been sent away to be figured. There were also several specimens of *Colymbus adamsi* obtained in the neighbourhood; in fact, most of the Northern Divers were of this species. The collection of birds at Bergen is much larger than those at Tromsö and Trondhjem, and is specially strong in game-birds. The only known hybrid between the Black Grouse and Capercailie is to be seen here.

We now give our notes on the species of birds observed during our tour, the order and nomenclature used being those of the B. O. U. List:—

REDWING (*Turdus iliacus*). Tromsö was the most northerly place where we saw this bird, and we took a nest of four there (much incubated) on June 27th, although a nest of five fresh eggs was brought to us in the Porsanger on the 21st.

FIELDFARE (*Turdus pilaris*). Found breeding at most of the places we visited, but only in small numbers; partly, perhaps, because there were so few trees large enough for them to build in. Their favourite tree appears to be the birch, and in those parts of the country where the upper part of the tree has been cut off for fuel the nest is often placed on the top of the stump.

RING-OUZEL (*Turdus torquatus*). Several pairs seen on one of the islands in the Porsanger. In Grundfjord we saw a male feeding at 12 p.m. among the stones just uncovered by the ebbing tide.

WHEATEAR (*Saxicola ænanthe*). Generally distributed. Found nest with six eggs on the 17th of June.

REDSTART (*Ruticilla phænicurus*). In the woods at the head of Botnfjord.

BLUETHROAT (*Cyanecula suecica*). First seen in the small wood at the back of Bodö. It was singing when we arrived at 2 A.M., sometimes perched on a sallow (the tallest bush in the wood), and at other times rising a few feet into the air. In the Porsanger we found two nests with seven and six eggs respectively. One was placed in moss and *Empetrum nigrum* under a small dead juniper; another was in some juniper-bushes clothing the side of a rock—in each instance on high ground and some distance from water.

WILLOW WARBLER (*Phylloscopus trochilus*). In every wood and willow marsh we heard this bird, and many times saw it with building material. Four days before we left the Porsanger, a Finn brought us an egg.

ICTERINE WARBLER (*Hypolais icterina*). When the tourist steamer landed her passengers at the head of Holandfjord, on the 28th of June, to see the Svartizen glacier, which here comes down to within half a mile of the water's edge, we utilized the time by searching the woods that clothe the hill-side up to the glacier. Here we found a nest of the Icterine Warbler with two eggs; it was placed in the fork of a birch-tree about 15 feet from the ground. We could hear another male singing on the other side of the valley, but had not time to search for the nest. The only recorded instance of this bird occurring within the Arctic Circle is the specimen obtained by Messrs. F. and P. Godman at Bodö in 1857 (*Ibis*, 1861, p. 82), and we believe ours are the first eggs ever taken in that region.

BLACK-BELLIED DIPPER (*Cinclus melanogaster*). Seen above Aedfjord.

MARSH-TITMOUSE (*Parus palustris*). In the woods at the head of Botnfjord.

WHITE WAGTAIL (*Motacilla alba*). Observed many times. Two nests found in the Porsanger on June 21st contained eggs (6-5) on the point of hatching.

BLUE-HEADED YELLOW WAGTAIL (*Motacilla flava*). At Bodö, in Aedfjord, and in the Porsanger; we were too early for eggs, as in every instance we saw both male and female feeding.

BLACK-HEADED WAGTAIL (*Motacilla borealis sundevalli*). A pair seen in the Porsanger.

MEADOW-PIPIT (*Anthus pratensis*). Generally distributed. Found many nests in *Empetrum nigrum* and moss; eggs 5-4.

RED-THROATED PIPIT (*Anthus cervinus*). Two nests that we found in the Porsanger (eggs 4 and 6) we identified by shooting the female. In each instance the nest had a slight lining of very fine roots, which was absent in those of the Meadow Pipit. The eggs in each clutch varied considerably in colour.

ROCK-PIPIT (*Anthus obscurus*). On Storr Tamsö we saw several of these birds, but as in each instance they were carrying food we did not shoot them to identify the species.

SPOTTED FLYCATCHER (*Muscicapa grisola*). Seen in Aedfjord, and eggs found on June 29th, near Trondhjem.

PIED FLYCATCHER (*Muscicapa atricapilla*). Nest found (eggs 6) in Aedfjord on the 9th of June, and at Tromsö (eggs 6) on the 27th.

BRAMBLING (*Fringilla montifringilla*). Seen in all suitable localities as far north as the Porsanger. We found a nest with six eggs at Tromsö on June 27th.

MEALY REDPOLL (*Linota linaria*). Generally distributed. We found nests near the Svartizen glacier with five and seven eggs, the latter an unusual number.

BULLFINCH (*Pyrrhula europæa*). At Botnfjord we found a Tit's nest lined with feathers from a male Bullfinch.

REED-BUNTING (*Emberiza schæniclus*). Seen at Aedfjord and in the Porsanger.

LAPLAND BUNTING (*Calcarius lapponicus*). Very common in the Lofodens and the Porsanger. Nests, which were always lined with feathers, were generally hard to find, as they were placed in *Empetrum nigrum*, and the female, on hearing the male bird's alarm-note, quietly steals off the nest. On the shore at Storr Tamsö, at low tide, we noticed dozens of male birds feeding amongst the heaps of seaweed. The number of eggs varied from four to six.

MAGPIE (*Pica rustica*). A pair seen near every group of houses. The only nests the Norwegian boys appear to disturb are those containing eggs good to eat.

HOODED CROW (*Corvus cornix*). Seen wherever there were woods. We were much amused at watching a pair of Hooded Crows mobbing a pair of White-tailed Eagles on one of the Lofodens. The Crows had a nest with young in the same valley as the Eagles. On our approach, the Eagles both took wing, and continued to circle high in the air above the eyrie; although the Crows' nest was half a mile away, they immediately flew at the Eagles, and for over an hour were pursuing one or other of them.

RAVEN (*Corvus corax*). Seen on several occasions. On one of the Lofoden Islands we saw a family-party, consisting of two parent-birds and four young; one of the old birds and two of the young had patches of white feathers on the wings.

SKY-LARK (*Alauda arvensis*). Seen at Bodö.

SHORE-LARK (*Otocorys alpestris*). We were too late for eggs, but we saw the bird several times in the Porsanger. When walking over a low-lying island about 1 A.M., we disturbed a Shore-Lark. It flew only a few yards before settling again, and then commenced to sing—it was a very sweet, low warble. When between one and two thousand feet up a fell on June 23rd, just at the highest point, we shot a male Shore-Lark which was feeding beside a large patch of snow.

THREE-TOED WOODPECKER (*Picoïdes tridactylus*). Saw one in the wood at the head of Botnfjord, and found a nest just finished in a dead poplar.

CUCKOO (*Cuculus canorus*). Seen in the Porsanger.

ROUGH-LEGGED BUZZARD (*Archibuteo lagopus*). Seen on the wing many times. A nest of three eggs just hatching was taken by our engineer in the Porsanger on June 20th.

WHITE-TAILED EAGLE (*Haliaëtus albicilla*). The only Eagle identified. We found an eyrie on the Lofodens, and climbed to within 100 feet of it, when we could hear the young birds. When steaming through the Magerösund at 12 o'clock at night we saw an Eagle on the wing. We also had a fine view of one of these Eagles on the 28th: it was seated on a rock near the water's edge; we passed within 60 to 70 yards of it on the steamer.

MERLIN (*Falco aesalon*). In the Porsanger we found a nest with five eggs. It was placed on the face of a cliff behind a detached pinnacle of rock.

SHAG (*Phalacrocorax graculus*). Seen on some of the islands in the Porsanger.

GREY LAG GOOSE (*Anser cinereus*). We found several nests (eggs six to four) on Storr Tamsö; and on a piece of bog saw thirty-three birds feeding which allowed us to walk within 100 yards of them before they rose.

COMMON SHELDRAKE (*Tadorna cornuta*). Had a clutch of eight eggs brought us in the Lofodens which had been taken on a small island where many Eiders breed.

TEAL (*Querquedula crecca*). A pair seen near the Aedfjord. A clutch of six eggs has since been sent to us from the Lofoden Islands.

LONG-TAILED DUCK (*Harelda glacialis*). Very common; a pair on nearly every lake.

EIDER DUCK (*Somateria mollissima*). Formerly the Eider was protected by law on only a few islands, Storr Tamsö,

in the Porsanger, being one of them. As no one is allowed to land on the island, many species of birds found the advantage of the quiet sanctuary, but now that the Eiders are everywhere protected they are much more widely distributed, and other birds, having learnt that they are equally safe, do not now throng to Storr Tamsö. The island is government property, and is rented at 89*l.* per annum. The tenant told us that the down from about twenty nests would weigh a pound, which sells there from 15*s.* 7*d.* to 16*s.* 8*d.* The down is collected about the last week in June, the date depending on the weather. The island is divided into sections, and men to the number of twelve or fourteen, walking in a row, search the whole island; they gather all the down they can find, whether the eggs are hatched or not.

COMMON SCOTER (*Ædemia nigra*). Seen many times on the sea.

RED-BREASTED MERGANSER (*Mergus serrator*). Generally distributed.

WILLOW GROUSE (*Lagopus albus*). We saw a cock in full winter plumage on June 10th near Aedfjord, and another on the 24th in the Porsanger. The largest clutch we found was ten. One of the nests, off which we flushed the hen, contained three eggs, which were lying in quite an inch of water.

RINGED PLOVER (*Ægialitis hiaticula*). All the nests we found were at some distance from the sea; patches of young reindeer moss seemed the favourite nesting-site.

DOTTEREL (*Eudromias morinellus*). We found a nest on June 22nd with three eggs, very distinctly marked, on the summit of a high fell in the Porsanger, and shot the female from the nest. It was placed between two patches of reindeer moss, a piece of *Empetrum nigrum*, and dwarf birch (about 1½ in. high), and was lined with dead birch-leaves. We afterwards saw two more birds; but a thick fog coming on we were obliged to give over our search for their nest.

GOLDEN PLOVER (*Charadrius pluvialis*). Several pairs seen on the Lofodens.

TURNSTONE (*Streptilas interpres*). In good numbers on some of the islands in the Porsanger.

Had any historian of British birds described the nesting-habits of this species, we should probably have found a good many eggs, but the very meagre information given rather hindered than helped us. Directly we found a bird we noticed that, if high ground was near, it immediately flew to it, uttering its alarm note, and presently it was joined by the female; both birds would perch on boulders of rock. We spent hours in trying to watch them back to their nest, but they would not move from their stations whilst we were in the neighbourhood. We also spent many hours searching under stones near the places where we saw the females, but without success. The last evening but one before we left the Porsanger, whilst walking by the shore, we found a nest placed in the centre of a patch of dwarf willow not 5 paces from high water-mark. A second nest was found in a similar position, and a third under a flat stone just 12 paces above high water-mark.

RED-NECKED PHALAROPE (*Phalaropus hyperboreus*). Numerous on one of the Lofodens and in the Porsanger. They often nest quite on the edge of small tarns or peat-holes, in grass about 6 in. high; a few were in marsh ground covered with grass of same height; the nests were neatly made of fine grass, and rather deep in proportion to their width. In most instances where we saw this species there were three birds—two males and one female. Twice we saw parties of three birds each on the sea, feeding just behind the breakers; repeatedly we noticed three birds together on the wing; and nearly every time we came upon them in the small lakes of the tundra the party consisted of two males and one female. Can this species be *polyandrous*?

COMMON SNIBE (*Gallinago caelestis*). Observed in the marsh at the back of Bodö. We found a nest of four eggs in the Lofodens on the 12th June.

DUNLIN (*Tringa alpina*). Scattered over the low ground of the Lofodens and the islands of the Porsanger. They

generally prefer marshes covered with rather higher and coarser grass than that selected by the Phalarope. The eggs we found after the 22nd were much incubated.

LITTLE STINT (*Tringa minuta*). Obtained one specimen with incubation spots on June 20th, it was feeding on a mud-flat along with Ringed Plovers and some of the next species.

TEMMINCK'S STINT (*Tringa temmincki*). Common in the Porsanger. Found several nests with full clutches on one of the islands on June 25th. In each case the male bird was sitting. The colour of the male harmonized much more with the herbage than that of the female. We had visited this island previously on the 17th; but, although we saw some of these birds and searched carefully, no nests were found, therefore most of the eggs must have been laid during the week intervening. The nests were all placed in short grass about 6 in. high—generally containing some dried grass of last year—on dry ground, not far from the houses, but the positions varied much, some on mounds or sides of mounds, some in hollows, others on level ground.

PURPLE SANDPIPER (*Tringa striata*). One seen on the Porsanger. The owner of the island had fresh-taken eggs.

COMMON SANDPIPER (*Tringoides hypoleucus*). Seen in Aedfjord, Botnfjord, and the Porsanger.

REDSHANK (*Totanus calidris*). Generally distributed; one nest we found was placed in the centre of a patch of dwarf willow.

BAR-TAILED GODWIT (*Limosa lapponica*). We saw a flock of twelve birds on Stor-Tamsö; some were in full breeding-plumage, others in winter, and some in intermediate plumage, from their manner evidently not breeding.

WHIMBREL (*Numenius phaeopus*). Found on all suitable localities; it seemed to prefer the same sort of ground for nesting as that selected by Richardson's Skua. Our attention was drawn to several nests through seeing the Whimbrel dash at a passing Skua.

CURLEW (*Numenius arquata*). Seen in the Porsanger, but not so common as the Whimbrel.

ARCTIC TERN (*Sterna macrura*). We saw a colony on a small island in Botnfjord many miles from the open sea. On one of the islands in the Porsanger they were nesting in good numbers; one colony of nests was placed on sloping ground quite 150 feet above the sea. Several nests contained three eggs.

KITTIWAKE (*Rissa tridactyla*). In great numbers at Hjelsö, the bird-rock near the North Cape.

GLAUCOUS GULL (*Larus glaucus*). One pair seen off Sendjen.

HERRING-GULL (*Larus argentatus*). On Storr Tamsö we found this and the Lesser and Greater Black-backed Gulls nesting in colonies close together on the same sloping ground. We obtained from one district seven eggs of the peculiar red colour, which have occasionally been sent to this country from the North of Europe; these had been taken this year in a locality where no Glaucous Gulls are seen in the nesting season. The natives ascribe them to the Herring-Gull, and say that, however large the colony may be, the red eggs are never found in more than one nest in the colony. We also obtained some very pretty light blue eggs of the Herring-Gull.

LESSER and GREATER BLACK-BACKED GULLS (*Larus fuscus* and *Larus marinus*). Generally distributed, the latter especially numerous on Storr Tamsö.

COMMON GULL (*Larus canus*). The commonest small Gull on low-lying ground. One colony we visited contained several hundred nests.

RICHARDSON'S SKUA (*Stercorarius crepidatus*). In great numbers on some of the Lofodens and the islands of the Porsanger. On one island we visited, in an area of about three square miles, we estimated that there were considerably over 100 pairs. We were much surprised at the great percentage of pied birds; frequently, where two dark birds had paired, both had a few white feathers. There seemed to be

three distinct forms of this bird—the white-breasted, the black with dark brown tinge, and a mouse-coloured or light sooty form. On the 10th we observed two light-breasted birds breeding, and also a sooty male with golden-coloured cheeks and a black female. We took the first eggs on the 13th June.

BLACK-THROATED DIVER (*Colymbus arcticus*). Wherever there is a small island on a lake and no boat on that lake, a nest of this bird may be safely counted on in the Arctic Circle. All our eggs were taken by using a folding india-rubber boat.

RED-THROATED DIVER (*Colymbus septentrionalis*). Very common at all the places we visited, especially in the Porsanger.

RAZORBILL (*Alca torda*) and GUILLEMOT (*Lomvia troile*). Very numerous at Hjemsö.

BLACK GUILLEMOT (*Uria grylle*). We saw this bird constantly all up the coast, and took several nests in the Porsanger.

PUFFIN (*Fratercula arctica*). A large colony at Hjemsö.

The result of our expedition was the acquisition of eggs of forty-seven species.

A few hints may be of service to ornithologists who propose to visit Norway. All the best breeding-places of sea-birds are as carefully preserved as our Grouse-moors are, but with letters of introduction permission can generally be obtained to visit them. On all the islands we visited we found the best nesting-ground at the south end, and, speaking generally, the land at the mouth of the fjord is useless. The end further from the sea has the most vegetation and bird-life. The proprietors object to the eggs being blown on the breeding-grounds, because, they say, it causes the birds to cease to breed there. They collect the first and second layings of the Gulls for eating, and allow the third to be hatched. If it is desired to shoot specimens, permission

should be specially asked. In wet weather the day is the best time to seek nests, but in fine warm weather (of which we had little) the night and early morning are better. We found field-glasses of 15 power very useful for observing birds; they give a large field and are not too heavy to carry.

XVI.—*On a Collection of Birds sent by Mr. Alfred H. Everett from the Sulu Archipelago.* By R. BOWDLER SHARPE, LL.D., F.L.S., &c.

(Plates VI. & VII.)

It is with great pleasure that I bring before the readers of 'The Ibis' an account of a small but interesting collection of birds procured in the islands of Bongao, Sibutu, and Tawi-Tawi, in the Sulu Archipelago, by Mr. A. H. Everett. I believe that no birds have been previously obtained from Bongao and Tawi-Tawi, and that only a few odd skins, procured by Sir Hugh Low, have been brought from Sibutu. The main island of Sulu has been visited by Mr. Burbidge, Dr. Guillemard, M. Marche, and Dr. Platen and his wife, and the following papers refer to the ornithology of that island:—

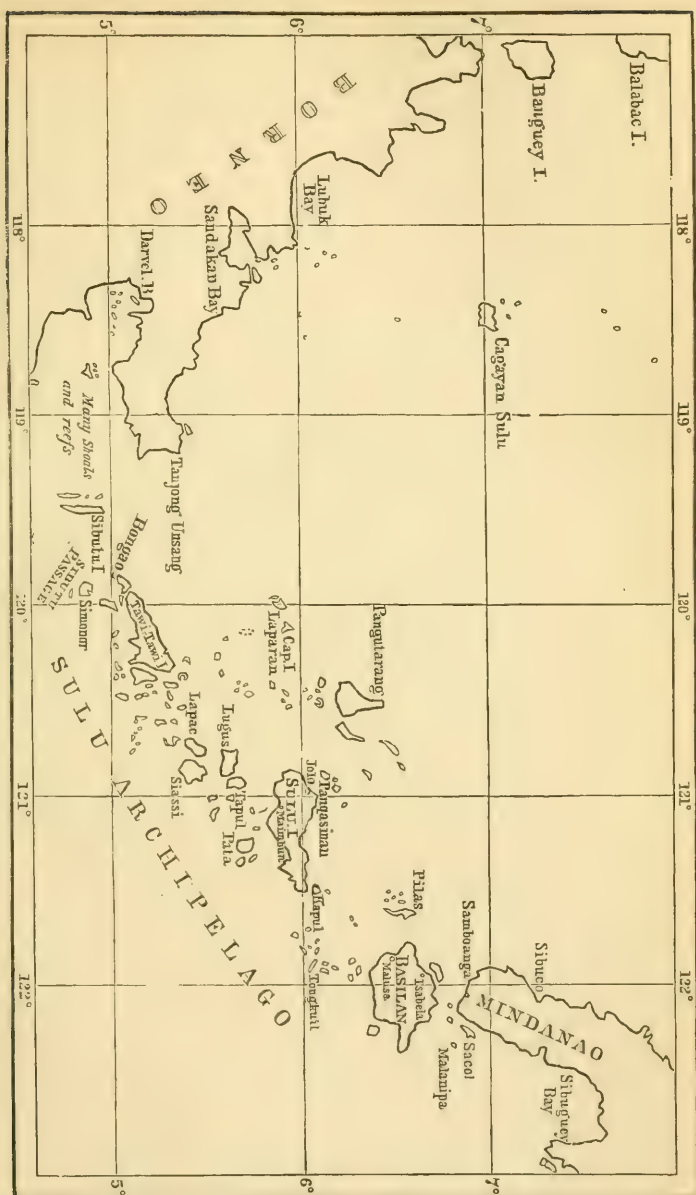
SHARPE, R. B. "On the Birds collected by Prof. J. B. Steere in the Philippine Archipelago." Tr. Linn. Soc. (2), Zool. i. pt. 6, p. 310 (1877).

SHARPE, R. B. "A Contribution to the Avifauna of the Sooloo Islands." P. Z. S. 1879, pp. 311–317.

OUSTALET, E. "Description des oiseaux nouvelles des Iles Souloos." Bull. hebdomadaire Assoc. Sc. France, 1880, p. 205.

GUILLEMARD, F. H. H. "Report on the Collections of Birds made during the Voyage of the Yacht 'Marchesa.' I. A provisional List of the Birds inhabiting the Sulu Archipelago." P. Z. S. 1885, pp. 247–275, pls. xvii., xviii.

BLASIUS, W. "Die wichtigsten Ergebnisse von Dr. Platen's ornithologischen Forschungen auf den Sulu-Inseln." J. f. O. 1890, pp. 137–144. [This paper contains a list only of the species additional to Dr. Guillemard's list which were discovered by Dr. Platen.]



MAP OF THE SULT ARCHIPELAGO. (From P. Z. S. 1885, p. 249.)

Mr. Everett writes to me as follows:—"By this mail I am despatching a small collection of birds from the Tawi-Tawi Archipelago. I hope you may be able to find time to make a list of the species, as the locality is a new one. Some of them appear to be new, but I am not informed up to date of what our American and German co-workers have been doing in the Philippines, so I will not venture to specify the novelties. The collection having been formed in July, it is free from northern migrants; and it is therefore, I believe, fairly representative of the species permanently inhabiting these islands, though of course much smaller than if it had been made during the N.E. monsoon. I spent 10 days on the island of Sibutu and 17 days on Bongao, sending my men to the main island of Tawi-Tawi also for a few days. Most unfortunately, after waiting five years for an opportunity of working these islands, I was seized, the very day I landed on Sibutu, by what I now know to have been a severe attack of influenza (so-called), which so entirely prostrated me that I was unable to attend even to the sexing of the specimens, and had to leave it to my native hunters—a fact which you will bear in mind in looking over the skins. From the day that I landed until I had to leave owing to no rice being procurable, I was unable to do any collecting or even to walk most of the time. Nevertheless my men worked well, and the collection is quite sufficient to show that the avifauna of the Tawi-Tawi Islands is to all intents and purposes identical with that of the Sulu Archipelago, the Philippine element immensely preponderating over that derived from Borneo even in Sibutu, although in the latter the Bornean infusion is more clearly discernible. You will recollect with regard to Sibutu that Guillemard, in the paper read in 1885 (*P. Z. S.* 1885, p. 247) on his Sulu collection, anticipated that 'a more extended knowledge of its avifauna would probably show a preponderance of western rather than eastern forms,'—founding his opinion, which I shared, on the fact that, whereas the sea intervening between Sibutu and Borneo appeared to be shallow, that between Sibutu and the Tawi-Tawi Islands was known to be of great

depth, the charts showing 500 fathoms 'without bottom,' so that this deep Sibutu Passage seemed to form the natural line of delimitation between the Bornean and the Philippine groups of islands and between their respective faunas. Capt. Field, of H.M.S. 'Egeria,' has been recently surveying this part of the coast of Borneo, and I suggested to him that it would be a point of some scientific interest to ascertain the real depth of the Sibutu Passage. This he very kindly did, with the result that the deepest sounding obtained was 267 fathoms, while one cast showed as little as 139 fathoms. Capt. Field informed me that he had sounded as nearly as possible on the spot where the chart records '500 fathoms—no bottom' without finding any such depth, and that he thought that the former record might have been due to errors arising from the less perfect sounding-apparatus in use in former days. But not only is the Sibutu Passage much shallower than Guillemard was led to suppose it to be, but Capt. Field's survey on the western side of the island shows that it is connected with the 100-fathom fringing bank of Borneo by a very narrow isthmus, on which the shallowest sounding seems to be one of 75 fathoms,—so that it can only just be said to be geographically a part of Borneo as defined by the 100-fathom line of soundings. I may mention that Sibutu is mainly composed of recent coral limestone, raised not many feet above the sea; but there is a hill of volcanic rock and a crater-lake, which I did not myself see. The Tawi-Tawi Islands appear to be all either volcanic or recent limestone.

"The Black-headed Pitta in Sibutu appeared to me to be nearer to *Pitta muelleri* than to *P. sordida*, which is the Tawi-Tawi species, but I have no skins to compare it with. Beside the birds of which I send skins, *Halcyon chloris* was exceedingly abundant both on Sibutu and on the other islands; and at Bongao *Cuncuma leucogaster*, a species of *Microhierax*, *Turtur dussumieri*, *Carpophaga bicolor*, and *Gallus bankiva* were observed, together with a species of *Lalage* and a bird which I think was *Dendrobiastes basilanica*, but I could not be sure. I saw also *Carpophaga pickeringi* on Sibutu."

The following is a list of the species represented in Mr. Everett's collection :—

1. MEGAPODIUS CUMINGI.

Megapodius cumingi, Motl. & Dillw. ; Blasius, J. f. O. 1890, p. 139.

An adult male from Sibutu.

2. EXCALFACTORIA CHINENSIS.

Excalfactoria chinensis (L.) ; Guillem. P. Z. S. 1885, p. 272.

A pair of birds from Bongao.

3. OSMOTRERON AXILLARIS.

Osmotreron axillaris (Gray) ; Sharpe, P. Z. S. 1879, p. 316 ; Guillem. P. Z. S. 1885, p. 268 ; Salvad. Cat. B. xxi. p. 48 (1893).

An adult male from Bongao. "Iris greenish silvery." Both sexes from Sibutu Island.

4. OSMOTRERON VERNANS.

Osmotreron vernans (L.) ; Sharpe, P. Z. S. 1879, p. 315 ; Guillem. P. Z. S. 1885, p. 268 ; Salvad. Cat. B. xxi. p. 60 (1893).

An adult male and a young bird from Bongao. "Exterior ring of iris pink, interior ring blue." An adult male from Sibutu.

5. PTILOPUS BANGUEYENSIS.

Ptilopus bangueyensis, Meyer ; Salvad. Cat. B. xxi. p. 143. *Ptilopus melanocephalus* (nec Forst.), Sharpe, P. Z. S. 1879, p. 316 ; Guillem. P. Z. S. 1885, p. 269.

Adult males from Bongao. Adults and young from Sibutu. An adult male from Tawi-Tawi.

6. CARPOPHAGA ÆNEA.

Carpophaga ænea (L.) ; Sharpe, P. Z. S. 1879, p. 316 ; Guillem. op. cit. 1885, p. 270 ; Salvad. Cat. B. xxi. p. 190 (1893).

An adult male from Bongao and an adult male from Sibutu.

7. COLUMBA GRISEIGULARIS.

Columba griseigularis (Wald. & Layard); Salvad. Cat. B. xxi. p. 313 (1893).

Ianthœnas griseigularis, Sharpe, P. Z. S. 1879, p. 316; Guillem. op. cit. 1885, p. 271.

A pair of birds from Sibutu.

8. MACROPYGIA TENUIROSTRIS.

Macropygia tenuirostris, Gray; Sharpe, P. Z. S. 1879, p. 317; Guillem. op. cit. 1885, p. 271; Salvad. Cat. B. xxi. p. 346 (1893).

An adult male from Bongao and a young female from Sibutu.

9. TURTUR DUSSUMIERI.

Turtur dussumieri (Temm.); Guillem. P. Z. S. 1885, p. 272; Salvad. Cat. B. xxi. p. 423 (1893).

A pair from Sibutu.

10. CALENAS NICOBARICA.

Calenas nicobarica (L.); Sharpe, P. Z. S. 1879, p. 316; Guillem. op. cit. 1885, p. 272; Salvad. Cat. B. xxi. p. 615 (1893).

An adult female from Sibutu.

11. HYPOTÆNIDIA TORQUATA.

Hypotœnidia torquata (L.); Sharpe, Cat. B. xxiii. p. 43.

An adult male from Bongao. "Bill dark brown; legs dark olive-brown; iris dark Indian red."

12. AMAURORNIS PHÆNICURA.

Amaurornis phœnicura (Forst.); Sharpe, Cat. B. xxiii. p. 156.

Adult males and females from Bongao.

13. ÆGIALITES PERONI.

Ægialites peronii (Temm.); Salvad. Ucc. Born. p. 315 (1874).

Three adult males from Sibutu.

14. BUBULCUS COROMANDUS.

Bubulcus coromandus (Bodd.); Blasius, J. f. O. 1890, p. 139.

A young male from Bongao. "Bill pure chrome-yellow; legs and feet black; iris yellow."

15. *BUTORIDES JAVANICUS*.

Butorides javanica (Horsf.); Guillem. P. Z. S. 1885, p. 274.
An immature female from Bongao.

16. *DEMIEGRETTA SACRA*.

Demiegretta sacra (Gm.); Salvad. Orn. Pap. iii. p. 345 (1881).

An adult pair of birds from Bongao. The female is noted as having the "bill dark brown; legs yellow-green; iris light yellow."

17. *POLIOAËTUS ICHTHYAËTUS*.

Polioaëtus ichthyaëtus (Horsf.); Sharpe, Cat. B. i. p. 452 (1874).

An adult male from Bongao.

18. *HALIASTUR INTERMEDIUS*.

Haliastur intermedius, Gurney; Sharpe, Cat. B. i. p. 314 (1874); Guillem. P. Z. S. 1885, p. 253.

A young male from Bongao.

19. *SPILORNIS HOLOSPILUS*.

Spilornis holospilus (Vigors); Sharpe, Cat. B. i. p. 293 (1874); Blasius, J. f. O. 1890, p. 138.

Adult and young males from Bongao.

20. *ELANUS HYPOLEUCUS*.

Elanus hypoleucus, Gould; Sharpe, P. Z. S. 1879, p. 314; Guillem. P. Z. S. 1885, p. 253.

Several adult and young birds from Bongao, with the subjoined notes:—

♂ ad. "Bill black; gape pale yellow; feet pale wax-yellow; iris crimson-lake."

♀ imm. "Iris orange-red; cere greenish; angle of gape greenish chrome."

♀ juv. "Iris lemon-yellow."

21. *SCOPS SIBUTUENSIS*.

Scops sibuensis, Sharpe, Bull. B. O. C. no. xii. p. ix. (Nov. 1893).

Adult male and female and a young bird from Sibutu. They are marked :—" Bill blackish brown ; feet brown ; iris yellow."

This race is intermediate between *S. menadensis* and *S. mantananensis* which I described last year ; the white wing markings, however, are altogether smaller and not so distinct, the under surface of the quills being almost devoid of markings. From *S. menadensis* the Sibutu bird differs in having all the markings of the upper surface very fine and not all over as in that species. The quills have also more bars in the Celebean bird than in the species from Sibutu.

22. NINOX REYI.

Ninox reyi, Oustalet, Bull. hebd. Assoc. Sc. France, no. 39, 1880, p. 206.

A female from Bongao. " Iris light yellow ; bill greenish plumbeous ; feet greenish yellow."

The specimen now sent appears to be not quite adult, but it shows the distinctness of the species from *Ninox philippensis* in the barred upper surface. The upper breast is barred with white and dark brown, and the flanks are white, with longitudinal pear-shaped mesial streaks of pale rufous brown. The tail has likewise ten dark bands, much narrower than in *N. philippensis*, which has six broad bands of dark brown.

23. EURYSTOMUS ORIENTALIS.

Eurystomus orientalis (L.) ; Guillem. P. Z. S. 1885, p. 253 ; Sharpe, Cat. B. xvii. p. 33, pl. ii. fig. 1 (1892).

An adult pair from Sibutu.

24. PELARGOPSIS GIGANTEA.

Pelargopsis gigantea, Walden ; Guillem. P. Z. S. 1885, p. 256 ; Sharpe, Cat. B. xvii. p. 100 (1892).

An adult pair from Sibutu, and an adult male and female and a young bird from Bongao.

25. ALCEDO MENINTING.

Alcedo meninting, Horsf. ; Sharpe, Cat. B. xvii. p. 157 (1892).

Alcedo asiatica, Sw.; Guillem. P. Z. S. 1885, p. 255.

An adult female from Bongao, and an adult male from Tawi-Tawi.

26. *CEYX EUERYTHRA*.

Ceyx euerythra, Sharpe, Cat. B. xvii. p. 179 (1892).

An adult male from Bongao, and a female from Tawi-Tawi.

27. *CEYX MALAMAUI*.

Ceyx malamaui, Steere, List Mamm. & Birds Exped. Philipp. p. 11 (1890); Sharpe, Cat. B. xvii. p. 184 (1892).

Ceyx suluensis, Blasius, J. f. O. 1890, pp. 139, 141.

Adult birds of both sexes from Bongao.

28. *CEYX BOURNSI*.

Ceyx bournsi, Steere, List Mamm. & Birds Exped. Philipp. p. 10 (1890); Sharpe, Cat. B. xvii. p. 185 (1892).

Ceyx margarethæ, Blasius, J. f. O. 1890, p. 141.

Adult males from Tawi-Tawi.

29. *HALCYON WINCHELLI*.

Halcyon winchelli, Sharpe; id. Cat. B. xvii. p. 255 (1892).

Adult male, female, and young from Bongao; and an adult male from Tawi-Tawi.

All the old males sent by Mr. Everett have white breasts. The females have orange on the throat, chest, and sides of body. A nestling has the orange colour fully developed, as in the females. Dr. Oustalet's *Halcyon alfredi* (Le Naturaliste, 1890, p. 63) is therefore the old male of *H. winchelli*. The young male has the soft parts as follows:—"Bill black, base of mandible white; feet greenish, claws black; iris dark brown."

30. *MACROPTERYX COMATA*.

Macropteryx comata (Temm.); Guillem. P. Z. S. 1885, p. 256; Hartert, Cat. B. xvi. p. 517 (1892).

An adult male from Sibutu.

31. *COLLOCALIA LINCHI*.

Collocalia linchi, Horsf. & Moore; Hartert, Cat. B. xvi. p. 508 (1892).

A pair of adult birds from Bongao.

32. *SURNICULUS VELUTINUS*.

Surniculus velutinus, Sharpe, Tr. Linn. Soc. (2) Zool. i. p. 320 (1877); Shelley, Cat. B. xix. p. 230 (1891).

Two adult males from Tawi-Tawi.

33. *CACOMANTIS MERULINUS*.

Cacomantis merulinus (Scop.); Shelley, Cat. B. xix. p. 268 (1891).

Cacomantis sepulcralis, Blasius, J. f. O. 1890, p. 138.

An adult pair from Bongao, and an adult female and a young male from Tawi-Tawi.

34. *CHALCOCOCCYX MALAYANUS*.

Chalcococcyx malayanus (Raffl.); Shelley, Cat. B. xix. p. 298 (1891).

An adult pair from Bongao, with the following notes:—

♂. "Bill black; legs dark plumbeous; iris red; eye-wattle deep carmine."

♀. "Bill black; legs dark plumbeous; iris dull orange; eye-wattle ochreous yellow."

Adults and young from Tawi-Tawi.

35. *EUDYNAMIS MINDANENSIS*.

Eudynamis mindanensis (L.); Blasius, J. f. O. 1890, p. 138; Shelley, Cat. B. xix. p. 321 (1891).

An adult pair and immature birds from Bongao. "Iris crimson-lake." An adult male from Sibutu.

36. *CENTROPUS SINENSIS*.

Centropus sinensis (Steph.); Shelley, Cat. B. xix. p. 343 (1891).

Centrococcyx eurycercus, Blasius, J. f. O. 1890, p. 139.

An adult pair from Tawi-Tawi.

37. *CENTROPUS JAVANICUS*.

Centropus javanicus (Dumont); Shelley, Cat. B. xix. p. 354 (1891).

Centrococcyx javanensis, Blasius, J. f. O. 1890, p. 139.

A pair of adult birds from Bongao.

38. *CACATUA HÆMATUROPYGIA*.

Cacatua hæmaturopygia (P. L. S. Müll.); Sharpe, P. Z. S.

1879, p. 313; Guillemard, P. Z. S. 1885, p. 251; Salvad. Cat. B. xx. p. 130 (1891).

A single adult female from Bongao.

39. PRIONITURUS VERTICALIS, sp. n. (Plate VI.)

A considerable series of adult birds of both sexes from Bongao, Sibutu, and Tawi-Tawi.

It is very interesting to find here a new Parrot closely allied to the Celebean form *P. flavicans*. It has the sides of the neck and hind neck paler than the rest of the back, but merely of a yellowish-green colour instead of the golden olive, or, as Salvadori calls it, the "olive-brown" colour of the hind neck, which, in *P. flavicans*, is also found extending across the fore neck and chest. *P. verticalis* has the under surface of the body entirely yellowish, washed with green. The crown of the head is of a silvery cobalt, extending over the nape, and in the centre of the crown is a scarlet spot. In *P. flavicans* the crown is darker, the blue is of a lilac tint and only extends to the occiput, while the median spot is crimson.

The female differs from the male in being emerald-green all over, and wanting the verditer-blue on the head as well as the scarlet spot on the latter.

40. TANYGNATHUS LUCONENSIS.

Tanygnathus luconensis, Sharpe, P. Z. S. 1879, p. 313; Guillem. P. Z. S. 1885, p. 252; Salvad. Cat. B. xx. p. 424 (1891).

Adult birds from Bongao and Sibutu.

41. TANYGNATHUS BURBIDGII.

Tanygnathus burbidgii, Sharpe, P. Z. S. 1879, p. 313; Guillem. P. Z. S. 1885, p. 252; Salvad. Cat. B. xx. p. 432, pl. xi.

Adult males from Bongao, marked: "Bill red, with the tip yellow; feet dark grey; iris blood-red."

Adults from Tawi-Tawi.

42. LORICULUS BONAPARTII.

Loriculus bonapartii, Souancé; Guillem. P. Z. S. 1885, p. 252; Salvad. Cat. B. xx. p. 530.

A series of adults and young, of both sexes, from Bongao.

The young male and female resemble the old male and female, but have the sides of the face entirely green as well as the head. According to Mr. Everett, the bill is "dull orange, clouded and tipped with black; feet brown, claws dark brown."

Adult male and female from Tawi-Tawi Island, July.

The two specimens in the British Museum, presented by the Hon. W. Rothschild, are from the main island of Sulu, and have the crown of the head red, as described by Count Salvadori. All the birds from Bongao have the hinder part of the crown and nape golden; but of the two from Tawi-Tawi, one agrees with the series from Bongao, while the other (female) has the hinder crown washed with red as in the Sulu specimens.

43. *IYNGIPICUS RAMSAYI*.

Iyngipicus ramsayi, Hargitt; Guillem. P.Z.S. 1885, p. 254; Hargitt, Cat. B. xviii. p. 334 (1890).

Adult males, females, and young birds from Bongao. The male is noted: "Bill black, base plumbeous; legs olive-green; iris burnt-sienna brown."

44. *THRIPONAX JAVENSIS*.

Thriponax javensis var. *suluensis*, Blasius, J. f. O. 1890, p. 138.

Thriponax javensis (Horsf.); Hargitt, Cat. B. xviii. p. 498 (1890).

Adult males, females, and young from Bongao, and adults of both sexes from Tawi-Tawi.

Mr. Hargitt has kindly looked over the series of specimens sent by Mr. Everett, and has compared them with *T. javensis*, with the result, as he tells me, that there is no ground for separating the Sulu-Island birds from the typical form.

45. *CORONE PHILIPPINA*.

Corone philippina (Bp.); Sharpe, Cat. B. iii. p. 42; id. Tr. Linn. Soc. (2), Zool. i. p. 343 (1877); id. P. Z. S. 1879, p. 315.

Corvus philippinus, Guillem. P. Z. S. 1885, p. 266.

Adults of both sexes from Sibutu.

46. *CALORNIS PANAYENSIS*.

Calornis panayensis (Scop.); Guillem. P. Z. S. 1885, p. 267; Sharpe, Cat. B. xiii. p. 147 (1890).

Adult males and females and an immature female from Bongao, and a female from Sibutu, marked: "Bill and feet black; iris scarlet."

47. *SARCOPS CALVUS*.

Sarcops calvus (L.); Guillem. P. Z. S. 1885, p. 267; Sharpe, Cat. B. xiii. p. 97.

Sarcops lowii, Sharpe, P. Z. S. 1879, p. 315.

An adult male from Bongao, and an adult pair from Sibutu.

48. *ORIOLOUS CHINENSIS*.

Oriolus chinensis, L.; Sharpe, Cat. B. iii. p. 203 (1877); id. P. Z. S. 1879, p. 315; Guillem. op. cit. 1885, p. 261.

Adult females from Bongao, and adult males and females from Sibutu.

49. *ORIOLOUS STEERII*.

Oriolus steerii, Sharpe, Cat. B. iii. p. 213, pl. x.; id. Tr. Linn. Soc. (2), Zool. i. p. 329 (1877).

Adult and young birds of both sexes from Tawi-Tawi.

50. *CHIBIA BORNEENSIS*.

Chibia borneensis, Sharpe, P. Z. S. 1879, p. 246.

Chibia pectoralis, Guillem. P. Z. S. 1885, p. 259.

An adult male from Bongao, and adult birds of both sexes from Sibutu Island, marked: "Bill and feet black; iris brown."

On comparing the series from the Sulu Islands with the specimens of *Chibia pectoralis* and *C. borneensis*, I incline to the belief that they should be referred to the latter species, as the breast-spangles are so very much larger in *C. pectoralis*.

51. MUNIA JAGORI.

Munia jagori, Cab.; Guillem. P. Z. S. 1885, p. 268; Sharpe, Cat. B. xiii. p. 337.

An adult male from Bongao.

52. UROLONCHA EVERETTI.

Uroloncha everitti (Tweedd.); Sharpe, Cat. B. xiii. p. 363.

An adult female from Tawi-Tawi.

53. CINNYRIS JUGULARIS.

Cinnyris jugularis (L.); Shelley, Monogr. Nect. p. 151, pl. 48; Guillem. P. Z. S. 1885, p. 265.

Adult males from Bongao, and adults of both sexes from Sibutu.

54. CINNYRIS JULIÆ.

Cinnyris juliæ (Tweedd.); Shelley, Monogr. Nect. p. 135, pl. 44; Guillem. P. Z. S. 1885, p. 266.

Two young birds from Tawi-Tawi, which seem to me to be identical with typical *C. juliæ* of Tweeddale from Malanipa.

55. ANTHOTHREPTES MALACCENSIS.

Anthothreptes malaccensis (Scop.); Shelley, Monogr. Nect. p. 315, pl. 101. fig. 2; Guillem. P. Z. S. 1885, p. 266.

Anthothreptes chlorigaster, Sharpe; Blasius, J. f. O. 1890, p. 139.

Adult males and females from Bongao, and a series from Sibutu; also two adult males from Tawi-Tawi.

Professor Blasius has referred the Sulu bird to *A. chlorigaster*, and Dr. Guillemard to *A. malaccensis*. The specimens now sent by Mr. Everett appear to me to belong to the latter species. One specimen from Tawi-Tawi is very like *A. chlorigaster*, but another from the same island cannot be distinguished from *A. malaccensis*.

56. DICEUM SIBUTUENSE. (Plate VII. figs. 1, 2.)

Dicæum sibuense, Sharpe, Bull. B. O. C. xii. p. x.

Adults of both sexes from Sibutu.

This is an interesting species, new to science. Like *D. trigonostigma*, it has a slate-coloured throat, but the

latter is blackish slate-colour, like the sides of the face and head, and not lighter grey as in *D. trigonostigma*. The Sibutu bird, moreover, resembles *D. dorsale* in having an orange patch in the centre of the back, the lower back and rump being slaty grey, slightly washed with olive, and not orange-yellow as in *D. trigonostigma*. The female, as might be expected, closely resembles that of *D. trigonostigma*, but is tinted with olive-green on the rump, and has not the orange shade of the hen of the last-named species.

57. *DICÆUM HYPOLEUCUM*. (Plate VII. fig. 3.)

Dicæum hypoleucum, Sharpe, Cat. B. x. p. 37 (1885); Guillem. P. Z. S. 1885, p. 265.

Adults and young of both sexes from Bongao marked: "Bill black; legs dark plumbeous; iris yellowish brown."

The present species was first described by me in 1876, from specimens procured by Professor Steere in the islands of Malamaui and Basilan of the Philippine Archipelago. Afterwards Mr. Everett met with it in the latter island (see P. Z. S. 1879, p. 72). It has never been figured before, and I think that an illustration of it will be appreciated.

58. *ZOSTEROPS EVERETTI*.

Zosterops everetti, Tweedd.; Sharpe, Cat. B. ix. p. 163; Guillem. P. Z. S. 1885, p. 264.

Several specimens of both sexes from Bongao, and adult males from Tawi-Tawi.

59. *PARUS ELEGANS*.

Parus elegans, Less.; Guillem. P. Z. S. 1885, p. 264.

Adults and young from Bongao.

60. *HYLOTERPE HOMEYERI*.

Hyloterpe homeyeri, Blasius, J. f. O. 1890, p. 139.

Adult females from Bongao and an immature female from Sibutu.

61. *ARTAMUS LEUCOGASTER*.

Artamus leucogaster (Valenc.); Sharpe, Cat. B. xiii. p. 3 (1890).

Artamus leucorhynchus, Sharpe, P. Z. S. 1879, p. 315 ; Guillem. op. cit. 1885, p. 257.

An adult female from Bongao.

62. *COPSYCHUS MINDANENSIS*.

Copsychus mindanensis (Gm.) ; Sharpe, Cat. B. vii. p. 60.

Adults of both sexes and young, from Bongao.

63. *ORTHOTOMUS RUFICEPS*.

Orthotomus ruficeps (Less.) ; Sharpe, Cat. B. vii. p. 224 (1883).

Adult male and female and young, from Sibutu. The last is noted : " Bill dark brown ; mandible ochreous ; legs light transparent brown ; iris clay-colour."

64. *MACRONUS KETTLEWELLI*.

Macronus kettlewelli, Guillem. P. Z. S. 1885, p. 262, pl. xviii. fig. 2.

Adults of both sexes from Bongao, noted as follows :—

♂. " Bill black, mandible plumbeous ; legs olive ; iris pale yellow, almost white."

♀. " Legs light olivaceous brown ; iris light yellow."

An adult pair from Tawi-Tawi.

65. *IOLE HAYNALDI*.

Criniger haynaldi, Blasius, J. f. O. 1890, pp. 139, 143.

Adults of both sexes from Bongao, and adult males and females from Sibutu. The latter noted : " Bill blackish brown ; legs dark brown ; iris Indian red."

I have not been able to compare typical Sulu birds with those now sent by Mr. Everett, but I have little doubt as to their identity with Dr. Blasius's species. *Iole haynaldi* is altogether a darker and greener bird than *I. everetti*, the dark-coloured wings being an especial feature, from their want of the yellow colour which is a strong character in the last-named species. The ear-coverts are also dusky olive-brown instead of tawny olive. *I. haynaldi* also has the fore neck dark olive-green, whereas in *I. everetti* the fore neck is tawny like the throat.

66. ARTAMIDES GUILLEMARDI.

Graucalus guillemardi, Salvad. Ibis, 1886, p. 154.

Artamides pollens (nec Salvad.), Guillem. P. Z. S. 1885, p. 258.

Artamides schistacea (nec Sharpe), Blasius, J. f. O. 1890, p. 142.

An adult and young male from Bongao, and an adult and young female from Sibutu.

The series now sent by Mr. Everett enables me to say that the Sulu-Island *Artamides* cannot be referred to *A. pollens* of the Ké group, and that Salvadori was apparently quite right in separating it, as he has done under the name of *A. guillemardi*. We have in the British Museum a female of *A. pollens* from Ké Doulan, and on comparing this with the female of *A. guillemardi* the latter is not only found to be a much smaller bird, but has grey nasal plumes and dusky-grey lores, instead of the black nasal plumes and black lores of *A. pollens*; it is also of a somewhat darker slate-colour. The male bird very closely resembles *A. schistacea*, with which Prof. Blasius has identified it; but the latter bird has not the black round the eye and over the ear-coverts which is seen in *A. guillemardi*, while *A. schistacea* has also a white lining to the quills. *A. guillemardi* is also closely allied to *A. mindorensis* of Steere, which is, however, lighter grey in colour.

67. EDOLIISOMA EVERETTI.

Edoliisoma everetti, Sharpe, Bull. B. O. C. no. xii. p. x.

Mas a mari *E. morionis*, ex Celebes, vix diversus. Fœm. tamen gastræo cinereo concolore faciliè distinguenda.

An adult male and female from Bongao.

The male of this species is very similar to *E. morio* of Celebes, but it has more black at the base of the forehead and over the eye, and has the quill-lining grey instead of white, except on the second and third primaries, where it has a whitish margin, whereas in *E. morio* the entire aspect of the quill-lining is white. Total length 9 inches, culmen 0·75, wing 4·8, tail 3·7, tarsus 0·9.

The female, however, is totally different from the hen of *E. morio*, being uniform grey underneath like the upper surface of the body, whereas *E. morio* is rufescent below with dusky bars, and has rufous under tail-coverts. Total length 8 inches, wing 4.65.

68. GERYGONE SIMPLEX.

Gerygone simplex, Cab.; Sharpe, Cat. B. iv. p. 213.

Two adult females from Bongao, marked: "Bill and legs black; iris orange-brown."

These birds appear to me to be absolutely identical with Philippine specimens.

69. HYPOTHYMIS OCCIPITALIS.

Hypothymis occipitalis, Vigors; Sharpe, Cat. B. iv. p. 275; Guillem. P. Z. S. 1885, p. 260.

An adult female from Bongao, and an adult male from Sibutu.

70. RHIPIDURA NIGRITORQUIS.

Rhipidura nigritorquis, Vigors; Sharpe, Cat. B. iv. p. 334 (1879); Guillem. P. Z. S. 1885, p. 260.

A pair of adult birds from Bongao.

71. ZEOCEPHUS CINNAMOMEUS.

Zeocephus cinnamomeus, Sharpe; id. Cat. B. iv. p. 343.

Zeocephus rufus, Blasius, J. f. O. 1890, p. 139.

An adult female from Bongao, marked: "Bill dark blue, tipped with black; legs dark blue, nails black; iris chocolate-brown; eye-wattle dark blue."

I suspect that Blasius's *Zeocephus rufus* is the same as that now procured on Bongao Island, but the latter is certainly identical with the Basilan bird which I called *Z. cinnamomeus*.

72. RHINOMYIAS RUFICAUDA.

Rhinomyias ruficauda, Sharpe; id. Cat. B. iv. p. 368 (1879).

An adult male from Tawi-Tawi appears to be identical with birds from Basilan.

73. *CULICICAPA PANAYENSIS.*

Culicicapa panayensis (Sharpe); id. Cat. B. iv. p. 371.

Two adult males and females from Bongao.

These specimens are rather greener than typical Philippine birds; but, as they are not in very perfect plumage, I have not been able to determine whether there are any other differences.

74. *SIPHIA PHILIPPINENSIS.*

Siphia philippinensis, Sharpe, Cat. B. iv. p. 450.

Cyornis philippinensis, Sharpe, Tr. Linn. Soc. (2), Zool. i. p. 325 (1877); Guillem. P. Z. S. 1885, p. 260.

Young birds from Bongao, and adults and young of both sexes from Sibutu. The adults are marked: "Bill black; legs dark brown; iris chocolate-brown."

75. *HIRUNDO JAVANICA.*

Hirundo javanica, Sparrm.; Sharpe, Cat. B. x. p. 142 (1885); Guillem. P. Z. S. 1885, p. 261.

Two young females from Sibutu.

76. *PITTA ERYTHROGAстра.*

Pitta erythrogastra, Temm.; Blasius, J. f. O. 1890, p. 139; Whitehead, Ibis, 1893, p. 504.

Adult males from Bongao, and a series from Sibutu.

77. *PITTA ATRICAPILLA.*

Pitta atricapilla, Less.; ScL. Cat. B. xiv. p. 438; Whitehead, Ibis, 1893, p. 498.

An adult male from Bongao.

Mr. Everett has sent only one specimen from Bongao, and this turns out to be different from the Sibutu bird, which is *P. muelleri*. It is the true Philippine *P. atricapilla*, and I quite agree with Mr. Whitehead that the amount of black on the belly is a recognizable character.

78. *PITTA MUELLERI.*

Pitta muelleri (Bp.); Selater, Cat. B. xiv. p. 439; Whitehead, Ibis, 1893, p. 499.

An adult male and female from Sibutu marked: "Legs dark brown."

In the following table I have endeavoured to give a complete list of the species recorded from the Sulu Archipelago up to the present time. It will be observed that the avifauna of the group is strictly Philippine, as is manifest from the presence of such forms as *Calornis panayensis* instead of the Bornean *C. chalybeus*, *Eudynamis mindanensis* instead of *E. honorata*, *Munia jayori* instead of *M. brunneiceps*, *Cinnyris jugularis* instead of *C. pectoralis*, *Copsychus mindanensis* instead of *C. amœnus*, *Pycnonotus goiavier* instead of *P. analis*, &c. The island of Sibutu has a slight admixture of a Bornean element, as is shown by species like *Orthotomus ruficeps* and *Pitta muelleri* (instead of *Pitta atricapilla*), but its Philippine affinities are manifested by the presence of *Sarcops calvus*, *Iole haynaldi*, *Artamides guillemardi*, *Tanygnathus burbidgii*, and others.

The initial of the collector is attached to each locality, *e. g.* B. for Burbidge, E. for Everett, G. for Guillemard, L. for Low, M. for Marche, and P. for Platen.

BIRDS OF THE SULU ARCHIPELAGO.

Mindanao.	Basilan.	Banguey.	Borneo.	Celebes.	Species.	Sulu.	Siassi.	Lapac.	Tawi-Tawi.	Bongao.	Sibutu.
*	*	*	*	*	1. Megapodius cumingi	P.	...	...	...	...	E.
*	*	...	...	*	2. Gallus bankiva	G.	...	...	...	E.	
			*	...	3. Excofactoria chinensis	G.	...	...	...	E.	
*	...	...	...	...	4. Osmotreron axillaris	B. & G.	...	...	...	E.	E.
			*	*	5. — vernans	G.	G.	...	...	E.	E.
*	*	...	...	...	6. Phabotreron brevirostris ...	G.					
				*	7. Ptilopus formosus	G.					
*	*	*	...	...	8. — bangueyensis	G.	...	...	E.	E.	E.
*	*	*	*	...	9. Carpophaga ænea	G.	...	...	...	E.	E.
				...	10. — pickeringi	...	...	...	...	...	E.
*	...	...	*	...	11. Myristicivora bicolor	G.	...	...	...	E.	
*	*	...	*	...	12. Columba griseigularis	B.	...	...	...	...	E.
*	*	...	...	...	13. Macropygia tenuirostris ...	B.	...	...	...	E.	E.
*	...	...	...	...	14. Turtur dussumieri	G.	G.	...	...	...	E.
*	*	...	*	*	15. Chalcophaps indica	P.					
			*	...	16. Calenas nicobarica	...	...	...	...	...	E.
*	...	...	...	...	17. Hypotaenidia torquata	...	...	...	...	E.	
*	...	...	*	*	18. — striata	G.					
				...	19. Rallina euryzonoides	G.					
*	...	...	*	*	20. Amaurornis phœnicura	G.	...	...	...	E.	

					Species.						
Mindanao.	Basilan.	Banguey.	Borneo.	Celebes.		Sulu.	Siassi.	Lapac.	Tawi-Tawi.	Bongao.	Sibutu.
*	...	...	*	...	21. Gallierex cinerea	G.					
			*	*	22. Ægialitis peroni		...	...	...	...	E.
*	...	...	*	*	23. Bubuleus coromandus	P.	...	...	...	E.	
			*	*	24. Butorides javanicus	G.	...	...	...	E.	
			*	*	25. Demiegretta sacra	G.	...	...	...	E.	
			*	*	26. Ardetta sinensis	G.					
					27. Circus melanoleucus	G.					
			*	...	28. Polioaëtus ichthyaëtus	...	...	...	...	E.	
			*	*	29. Haliaëtus leucogaster	...	...	...	...	E.	
*	...	...	*	*	30. Haliastur intermedius	G.	...	...	...	E.	
*	*	...	*	*	31. Butastur indicus	G.					
*	...	...	...	...	32. Spilornis holospilus	P.	...	...	...	E.	
*	...	...	*	*	33. Pernis ptilonorhynchus	P.					
*	*	...	*	*	34. Elanus hypoleucus	B.	...	...	...	E.	
*	...	...	*	*	35. Falco severus	P.					
			*	...	36. Scops rufescens	? B.					
					37. — sibutuensis		...	...	...	...	E.
*	*	...	*	*	38. Ninox reyi	M.	...	...	...	E.	
*	*	...	...	...	39. Eurystomus orientalis	G.	...	...	...	E.	
			*	...	40. Pelargopsis gigantea		...	G.	...	E.	E.
					41. Alcedo meninting	G.	...	...	E.	E.	
*	...	...	*	...	42. — bengalensis	G.					
			*	...	43. Ceyx euerythra	...	...	...	E.	E.	
	*	...	...	...	44. — malamaui	P.	...	...	E.		
	*	...	...	...	45. — bournsi	P.	...	...	E.		
*	*	...	*	*	46. Halcyon chloris	G.	...	...	E.	E.	E.
*	*	...	...	...	47. — winchelli	M.	...	...	E.	E.	
*	...	...	*	*	48. Anthracoceros montani						
			*	...	49. Macropteryx comata	G.	...	...	...	...	E.
*	*	...	*	...	50. Collocalia linchi	...	...	...	...	E.	
*	...	...	*	*	51. Surniculus velutinus	...	...	...	E.		
*	...	...	*	*	52. Cacomantis merulinus	P.	...	...	E.		
*	*	...	...	...	53. Chalcococcyx malayanus	...	...	...	E.		
			*	...	54. Eudynamis mindanensis	P.	...	...	...	E.	E.
			*	*	55. Centropus sinensis	P.	...	...	E.		
*	...	...	*	*	56. — javanicus	P.	...	...	...	E.	
*	...	...	...	...	57. — viridis	...	G.				
*	...	...	...	...	58. Cacatua hamaturopygia	G. & B.	...	G.	...	E.	
					59. Prioniturus verticalis	...	...	...	E.	E.	E.
					60. — suluensis	B. G. P.	...	...	...	...	
*	*	...	...	...	61. Tanygnathus luconensis	G. & B.	...	G.	...	E.	E.
					62. — burbidgii	B. & G.	...	...	E.	E.	
					63. Loriculus bonapartii	G.	...	...	E.	E.	
					64. Iyngipicus ramsayi	G.	...	...	...	E.	
*	*	...	*	...	65. Thriponax javensis	P.	...	E.	E.		
*	*	...	...	...	66. Corone philippina	B.	...	...	...	...	E.
*	*	...	...	...	67. Calornis panayensis	G.	G.	...	...	E.	E.
*	*	...	...	...	68. Sarcops calvus	G.	...	...	...	E.	L. & E.
*	*	...	...	...	69. Oriolus chinensis	G. & B.	...	G.	...	E.	L. & E.
	*	...	*	...	70. — steerii	...	...	...	...	E.	
	...	...	...	...	71. Chibia borneensis	G.	...	...	...	E.	E.
*	...	...	...	...	72. Munia jagori	G.	...	...	...	E.	

Mindanao.	Basilan.	Banguay.	Borneo.	Celebes.	Species.	Sulu.	Siassi.	Lapae.	Tawi-Tawi.	Bongao.	Sibutu.
*	...	...	*	*	73. <i>Uroloncha everetti</i>	...	...	...	E.		
*	...	...	*	*	<i>Budytes viridis</i>	G.					
*	...	...	...	...	74. <i>Anthus gustavi</i>	P.					
*	...	...	...	...	75. <i>Cinnyris jugularis</i>	G.	...	...	E.	E.	
*	...	...	...	...	76. — <i>julia</i>	G.	...	...	E.		
*	...	...	*	...	77. <i>Anthothreptes malaccensis</i>	G. & P.	...	...	E.	E.	E.
	...	...	...	...	78. <i>Dicaeum sibutuense</i>	...	...	...	...	...	E.
*	...	...	...	...	79. — <i>hypoleucum</i>	G.	G.	...	...	E.	
	...	...	...	...	80. <i>Zosterops everetti</i>	G.	...	...	E.	E.	
	...	...	*	...	81. <i>Parus elegans</i>	G.	...	...	...	E.	
	...	...	*	...	82. <i>Lanius cephalomelas</i>	G.					
	...	...	...	...	83. — <i>tigrinus</i>	P.					
*	...	...	*	*	84. <i>Hyloterpe homeyeri</i>	B. & G.	...	...	...	E.	
*	...	...	...	...	85. <i>Artamus leucogaster</i>	P.					
*	...	...	*	...	86. <i>Geocichla interpres</i>	G.	...	...	...	E.	
*	...	...	...	...	87. <i>Copsychus mindanensis</i>	...	...	...	...	...	E.
*	...	...	...	...	88. <i>Orthotomus ruficeps</i>	G.					
*	...	...	...	...	89. <i>Cisticola exilis</i>	G.	...	...	E.	E.	
*	...	...	...	...	90. <i>Macronus kettlewelli</i>	G.	...	...	...	...	
*	...	...	...	...	91. <i>Pycnonotus goiavier</i>	P.	...	G.	...	E.	E.
*	...	...	*	*	92. <i>Iole haynaldi</i>	G.	...	...	...	...	
*	...	...	...	...	93. <i>Artamides guillemardi</i>	P.	...	...	...	E.	E.
*	...	...	...	...	94. <i>Edoliisoma caerulea</i>	P.	...	...	...	...	
*	...	...	...	...	95. — <i>everetti</i>	...	...	...	...	E.	
*	...	...	...	...	96. <i>Lalage terat</i>	G.	...	...	...	...	
*	...	...	...	...	97. <i>Pericrocotus marchesi</i>	G. & P.	...	...	...	...	
*	...	...	...	...	98. <i>Gerygone simplex</i>	G.	...	...	...	E.	
*	...	...	*	...	99. — <i>flaveola</i>	G.	...	...	...	...	
*	...	...	...	...	100. <i>Hypothymis occipitalis</i>	G.	...	...	...	E.	E.
*	...	...	...	...	101. <i>Rhipidura nigritorquis</i>	G.	G.	...	...	E.	
*	...	...	...	...	102. <i>Zeocephus cinnamomeus</i>	P.	...	...	...	E.	
*	...	...	...	...	103. <i>Rhinomyias ruficauda</i>	...	...	...	E.	...	
*	...	...	...	...	104. <i>Culicicapa panayensis</i>	...	...	...	...	E.	
*	...	...	...	...	105. <i>Siphia philippinensis</i>	G.	...	...	...	E.	E.
*	...	...	*	*	106. <i>Hirundo javanica</i>	...	...	...	...	...	E.
*	...	...	...	...	107. <i>Pitta erythrogastra</i>	...	...	...	...	E.	E.
*	...	...	...	...	108. — <i>atricapilla</i>	...	...	...	...	E.	
*	...	...	...	...	109. — <i>muelleri</i>	...	...	...	...	...	E.

XVII.—*Descriptions of the Eggs of three Species of South Australian Parrakeets.* By ALFRED J. NORTH, Assistant in Ornithology, Australian Museum, Sydney.

THE following notes on the nesting and eggs of three species of Australian Parrakeets, the breeding-habits of which were until lately little known, will, I trust, be of interest to ornithologists.

1. *POLYTELIS MELANURA*, Vigors; Salvad. Cat. B. xx. p. 480.

The Black-tailed Parrakeet, or "Rock Pebbler" as it is locally designated, is widely dispersed throughout the inland districts of South Australia and the southern portions of Western Australia, its range extending eastward into North-western Victoria and South-western New South Wales. Being a showy and attractive species, it is in great request as a cage-bird, and numbers of them are annually trapped and sent to the capitals of the southern colonies, but more especially to Adelaide.

For an opportunity of examining the eggs of this, as well as those of the following species, I am indebted to Mr. W. White, who found this Parrakeet breeding during September 1863 in the holes of the large *Eucalypti* overhanging the banks of the Murray River above the north-west bend near Pudenooka in South Australia. The eggs are three or four in number for a sitting; they are white, and vary in form from a thick to elongate oval, the surface of the shell being smooth, but very minutely pitted and lustreless. Average specimens measure as follows: length (A) 1.2 by 1 inch, (B) 1.33 by 1 inch.

A pair of these birds obtained by Mr. White in the same locality and placed in his aviary nested during October 1865 in the hollow limb of a tree, successfully rearing three young ones from a clutch of four eggs.

2. *NEOPHEMA SPLENDIDA* (Gould); Salvad. Cat. B. xx. p. 576.

The Splendid Grass-Parrakeet is very sparingly distributed in the interior of the inland districts of South Australia and the south-eastern portions of Western Australia, and is still one of the rarest species of this beautiful genus in our ornithological collections. A nesting-place of this Parrakeet containing four eggs was found by Mr. White near Pudenooka in the Murray scrub, the eggs being simply deposited on the decaying wood in the hollow limb of a *Eucalyptus dumosa*. The eggs are white and nearly round in form, the

texture of the shell being very fine and nearly lustreless. An average specimen measures 0·88 inch by 0·77 inch. This is the only occasion on which I have known the eggs of this species to have been taken.

Mr. White captured the female while sitting, and succeeded in keeping her in an aviary for several years.

3. *GLOSSOPSITTACUS PORPHYROCEPHALUS* (Dietr.); Salvad. Cat. B. xx. p. 70.

The range of the Purple-crowned Parrakeet extends over the southern portions of South and West Australia. In the immediate neighbourhood of Adelaide it is, with the exception of *Trichoglossus pusillus*, the most common species of the genus, but its eggs are seldom obtained owing to the inaccessible and lofty trees that it usually selects as a breeding-place. At Mt. Barker on the 18th of September, 1886, Mr. White and his son found a nesting-place of this species in the hollow limb of a Eucalypt, and after enlarging the narrow entrance to it, much to the annoyance and evident displeasure of the parent birds, discovered three young ones and an addled egg on the decaying wood at the bottom of the cavity. During the same month Mr. White was also successful in obtaining near Blakeston, in the Mt. Lofty Ranges, two fresh eggs of this Parrakeet, from a hole in the green limb of a lofty *Eucalyptus*. The eggs are white, and rounded in form, the shell being smooth and perfectly lustreless; they measure 0·83 inch in length, by 0·68 inch in breadth.

XVIII.—*A few Observations on some Species of Phylloscopus.*

By W. EDWIN BROOKS.

IN the 'Proceedings of the United States National Museum' for 1892 is a paper by Dr. Stejneger, entitled "Notes on a Collection of Birds made by Harry V. Henson in the Island of Yezo, Japan," of which several relate to *Phylloscopus borealis*, Blas., and *Phylloscopus xanthodryas*, Swinhoe. These two birds Dr. Stejneger proposes to unite, and terms the latter *P. borealis xanthodryas*, which is thus made to be only what is termed a subspecies of *P. borealis*.

I have not yet become reconciled to the trinomial theory, nor have I seen any use for it. However, in the present case the idea of any connection between the two species is quite out of the question. I have examined a good number of *P. borealis* and have compared it with *P. xanthodryas* in different collections, and I never could confound the small, dull, rather dark-toned *P. borealis*, with its minute *Acrocephalus*-like first primary, with the large bright-coloured green-and-yellow *P. xanthodryas*, with its very ample first primary. I have not one of the latter by me now, but, as well as I can remember, the bill was much longer and of a somewhat different form.

Of *P. xanthodryas*, Swinhoe says:—"This is the largest *Phyllopneuste* I have met with in China. It approaches *P. coronata* nearest in size of bill, but has no coronal stripe and the underparts are much yellower. From *P. sylvicultrix* [i. e. *P. borealis*] it is easily recognized by its much superior size, its yellow underparts, its more robust claws, the larger size of the first primary, and the greater difference between the second and third." (P. Z. S. 1863, p. 296.)

As Swinhoe had nearly 200 examples of *P. borealis* from Amoy for comparison, he was well able to distinguish this bird from *P. xanthodryas*.

Dr. Stejneger says:—"Material which has come to hand since I wrote my 'Results of Ornithological Explorations in Kamtschatka, &c.,' and especially the fine specimens in Mr. Henson's collection, as well as the examples obtained by Mr. Petersen at Nagasaki, have considerably shaken my confidence in *Phyllopseustes xanthodryas* as a good species. Three characters are given as distinctive of this form, viz. (1) general large size; (2) longer first (rudimentary) primary; and (3) more vivid yellow colour of the underparts. Several of the thirty-one specimens before me can be thus distinguished, but other specimens will show only one or two of these characters in all possible combinations. Thus U. S. Nat. Mus. nos. 89158 and 106607 (Bering Island), and Petersen's no. 28 (Kiusiu, Japan), are *Ph. xanthodryas* so far as the first primary is concerned, but *Ph. borealis*

according to colour, while the first-mentioned has the size of the former, and the two others are not larger than ordinary *Ph. borealis*. Henson's no. *w* (Hakodate, Japan), on the other hand, belongs to the last-mentioned form by its general size and the first primary, while it is coloured like *Ph. xanthodryas*. Henson's no. *y* (Hakodate) is a *Ph. xanthodryas* by its size, a *Ph. borealis* by its colour, with the first primary intermediate. U. S. Nat. Mus. no. 96254 (Blakist. no. 1879; Hakodate) is also a *Ph. xanthodryas* by size and partly by its colour, but its first primary does not reach beyond the longest primary-coverts. The result is that if you arrange your birds in two groups according to either one of the three diagnostic characters, the two groups will contain different specimens every time.

"It cannot be denied, however, that there is a general tendency in the larger birds to have a proportionally larger first primary and a yellower tint, and it may be that this tendency would be more striking were all the specimens properly sexed. It is also somewhat significant that we find none of the *Ph. xanthodryas* style in the Alaskan series. It is furthermore clear from the dates of the different birds that season has nothing to do with the intensity of the yellow colour. I am therefore not prepared to give up *Ph. xanthodryas* entirely, but as intermediate specimens undeniably occur, I shall at least provisionally adopt the course indicated by me on a former occasion (Res. Orn. Expl. Kamtsch. p. 306), calling the yellow bird *Ph. borealis xanthodryas*, in spite of the fact that it is difficult at present to assign a definite habitat to the two forms, as both seem to occur in the same countries. It is possible, however, that *Ph. xanthodryas* is the breeding bird of Japan, and that *Ph. borealis* only occurs there on the migrations; this is a question for the resident ornithologists there to investigate and solve."

That only *P. borealis* occurs in Siberia and in Alaska, to me proves a good deal; it proves, I think, specific distinctness.

From Stejneger's account of the specimens compared, I am not satisfied that all his so-called examples of *P. xanthodryas*

were really of that species. The comparison for such a purpose should have been made with well-ascertained males only, and all should have been well out of the moult, so that every primary would be of the full length. As to colour, this, at certain times of the year, is not so important, for I well know how thoroughly these little birds fade and lose all the green and all the yellow.

I have obtained examples of the deeply toned *P. affinis* of a dingy grey and with no green and no yellow. This was in summer-time. I have also obtained examples of other species similarly bleached.

The whole of the *Phylloscopi* lose colour very much, but their voices and song do not change. Here I may remark that all of these little birds that I have seen in life, and I have seen a good many of them, *have notably distinct voices*. By the help of the ear it is utterly impossible to confound them. They also, so far as at present ascertained, differ in their nests and eggs, and it is too soon to suppress Swinhoe's bird until it has been heard to speak for itself. This I am pretty sure it is able to do.

Now, no two *Phylloscopi* resemble each other more closely than *P. tristis* and my *P. scindianus*. They are far more alike in size and colour than *P. borealis* and *P. xanthodryas*. Both are found in Scind in the winter, but only *P. tristis* comes down to the North-west Provinces and Bengal. *P. scindianus* has the largest first primary, but it shows only a faint tinge of yellow on the axillary plumes, and none of the greenish edging to the lesser wing-coverts. Its bill, legs, and feet are paler. But *P. tristis* has a faint sibilant call-note, while that of *P. scindianus* is the loudest call-note I know of—similar to the well-known “tis-yip,” to use Blyth's term, of the English Willow-Wren, but more highly pitched and far louder. *P. tristis* is a Chiffchaff, but the faint little song is agreeable and musical, thus differing from the poor monotonous one of the English Chiffchaff. The song of *P. viridanus* is quite Willow-Wren-like, but of poor quality, and far inferior to that of the English Willow-Wren. That of *P. affinis* is a monotonous chirp, no more musical

than that of the House-Sparrow. Yet this rapidly repeated chirp is its song. Like *P. viridanus* it breeds in rocky ravines overgrown with bushes, while my *P. tytleri* breeds in the forests, and places its nest, like *P. proregulus*, high up a fir-tree and most difficult of access. *P. humii*, on the other hand, is truly *Phylloscopiue*, and places its domed nest on the ground. *P. magnirostris* affects mountain-torrents, where its pretty, short, shrill but very sweet song can be heard clear above the roar of the waters. In such difficult places I was unable to find the nest. The male and female of this species differ very much in size, and a careless ornithologist would easily mistake the female of it for *P. viridanus*. I speak incidentally of the voices, nest, and eggs, to show that while there is considerable resemblance, there are points where there is complete divergence; these should be carefully ascertained before the attempt is made to suppress a species.

Of *P. plumbeitarsus*, Mr. Seebohm says:—"This species differs from the preceding solely in having the median as well as the greater wing-coverts with pale tips. It appears to me to be a very doubtful species; and if Severtzoff's *Phyllopneuste intermedia* should really prove to be an intermediate form between it and *P. viridanus*, Blyth, it will have to be degraded to the rank of a subspecies." (Cat. B. Brit. Mus. vol. v. p. 46.)

Upon this I remark, the double wing-bar instead of a single one is sufficient; moreover, we do not know both the birds' voices. Still further, *P. viridanus* abounds in India and is not found in Burmah, while *P. plumbeitarsus* is common in Burmah and is not found in India. Once more, the bill of *P. plumbeitarsus* differs slightly both in form and colour from that of *P. viridanus*. Then how about the comparative colour of the tarsus and foot—of course, I mean, as seen in the freshly killed bird? In the B. M. Catalogue, "the legs, feet, and claws" of *P. viridanus* are described as "bluish brown," but it never struck me that they were of this colour.

Of *P. lugubris* Mr. Seebohm says:—"This species is very closely allied to the preceding, being absolutely identical in

colour and in its seasonal changes of plumage, and would scarcely be entitled to specific rank were it not that it appears to have a more eastern geographical range. It is a slightly smaller bird with a *somewhat more rounded wing*." (Cat. B. Brit. Mus. vol. v. p. 48.)

To this I would add that it is of a considerably more dusky tone, especially on the head, and in fresh spring dress it is quite distinct from *P. magnirostris*. In size the males of each species differ greatly, *P. magnirostris* being a larger bird every way.

Moreover, I have a fair knowledge of both birds in life, and I can safely say that the two species are as thoroughly distinct as could be wished. *P. magnirostris* has a most peculiar call-note, formed of two notes, the terminal half an octave or four notes above the note on which it begins. These two notes are distinct from each other, and not gliding the one into the other. They are shrill. The call-note of *P. lugubris* is wholly different, more like that of *P. viridanus*.

As I only met with *P. lugubris* about Calcutta during the early months of the year and late in the fall, I have not heard its song, if it has one. So far, every *Phylloscopus* that I have met with in the summer-time has a song, that of *P. humii* being least deserving of the name; for it consists simply of a double repetition of its ordinary call-note, which latter is a truly *Phylloscopine* "tis-yip," but shriller than that of *P. trochilus*.

As an extremely shrill and very sweet song, that of *P. magnirostris* is most singular, and I have heard nothing at all approaching it but the song of the North-American White-throated Sparrow, *Zonotrichia albicollis*. It will be found that the song of *P. lugubris* differs notably from that of *P. magnirostris*.

Mr. Oates remarks concerning *P. scindianus* that it "resembles *P. neglectus* so closely as to require no separate description, and only differs in being larger" ('Fauna of British India,' Birds, vol. i. p. 406).

This is not satisfactory and is liable to mislead. A difference in total length of half an inch, in wing of half an

inch, and in tail of half an inch is surely something in such small birds. But in fact one of these is a true *Phylloscopus*, closely similar to *P. trochilus* in note and habits, while the other in these respects resembles a small *Curruca*. Moreover it has the Whitethroat's restless habit, when intruded upon, of endeavouring to conceal itself as quickly as possible. So far as appearance goes, in one respect it is unlike the Whitethroats, for it has a full dark eye.

P. scindianus flits away when too closely observed, but *P. neglectus* creeps up the tree, uttering rapidly its peculiar alarm-note, till it is near the top, when it flies off. This extreme shyness and rapid mode of escape is quite "non-Phylloscopine." I think I have said enough to show that these two little birds, though of similar coloration, are thoroughly distinct. When the nests and eggs of both of them are known, and the songs ascertained, the distinctness will be still clearer. *P. scindianus* was common both at Sukkur and Schwan in Scind, so I had ample opportunity for observing its habits. Being the winter season when I was there I did not hear its song, if it has one.

It is hardly possible to describe the notes of a bird by syllables, but in the account of the bird in 'Stray Feathers' I intended to use the word "churring" to describe the Whitethroat-like note of *P. neglectus*; this was misprinted "cheering," which made the attempt pretty wide of the mark. If the "churr" be loudly whispered instead of being formed by the vocal organs, the idea will appear more reasonable, especially to any one acquainted with the "churr" of the Whitethroat. This little bird is, I think, wrongly placed generically in *Phylloscopus*, and is still further out of place when grouped with such birds as *P. horornis* and *P. dumeticola*. It requires, perhaps, a genus of its own.

Four *Phylloscopi* of similar coloration—*P. superciliosus*, *P. humii*, *P. subviridis*, and *P. proregulus*—have very distinct voices. I could be sure of recognizing any one of them by note alone, before shooting it.

Of another allied species, *P. mandelli*, I obtained only two

or three examples at Darjeeling, and in no case did I hear the note. This is a decidedly Eastern species, extending, as far as known, from Darjeeling to Shillong. It was rare at the former place, where *P. humii* was common. I mention it in case it may lead some collector in India to complete the natural history of this small bird, about which so little is known.

XIX.—*Note on the Aquatic Habits of the Chajá* (*Chauna chavaria*). By R. LYDEKKER, F.Z.S.

DURING my recent visit to Argentina, I had, while staying at the *estancia* of Las Bandurrias, near Colina, on the Great Southern Railway of Buenos Aires, the opportunity of observing the habits of a pair of Chajás, or Crested Screamers (*Chauna chavaria*), which were nesting in a small *laguna* a couple of miles or so from the house.

The result of my observations was to the effect that the statement of Mr. W. H. Hudson, in Selater and Hudson's 'Argentine Ornithology'*, that the Chajá "occasionally swims," is, in this instance at least, scarcely an adequate description of the real habits of the birds.

The *laguna* in question contained large growths of reeds and flags, forming masses intersected by open channels, and at the time of my visit (the latter part of October 1893) growing to a considerable height above the water. Like other similar spots in this part of Argentina, it was tenanted by large flocks of Ducks and Coots, while Black-necked Swans, small parties of the lovely red South-American Flamingo, and a few Storks were generally also to be seen.

On my first visit to the *laguna*, for the purpose of duck-shooting, I was considerably puzzled by seeing a pair of large grey birds, with short beaks, and looking somewhat like huge grey Geese, swimming about unconcernedly among the other denizens of the lagoon, since I had not the

* Vol. ii. p. 118.

least idea that such was the habit of the Chajá. On wading into the water, and approaching the birds, I was, however, soon convinced, both from their appearance and voice, that they were really Chajás. They allowed me to approach within easy gun-shot, when they rose heavily and flapped slowly to the bank, where they alighted. That they had a nest among the reeds in the middle of the *laguna* I felt assured, but the depth of water prevented my wading to the spot. I had, however, reason to believe that the young were already hatched and swimming about among the reeds, so that, had I succeeded in reaching the nest, my labour would have been in vain.

As soon as I reached the shore, the Chajás once more returned to the water, and recommenced swimming about among the Ducks. During several subsequent visits to the same spot, I nearly always saw the birds swimming far out in the water; and, indeed, I think it was only once or twice that I observed them on land. It is therefore evident that during the nesting-season this pair of Chajás should be described as thoroughly aquatic in their habits.

I hope to pay another visit to the same hospitable *estancia* in July or August next (the Argentine winter), and shall then not fail to find out whether my friends the Chajás are at that season as fond of the *laguna* as they were in the early summer.

XX.—On the Occurrence of *Colymbus adamsi* in Norway.

By Prof. R. COLLETT, F.M.Z.S.

(Plate VIII.)

THE large Diver first named by G. R. Gray (P. Z. S. 1859, p. 167) *Colymbus adamsi*, from specimens obtained by Mr. Adams, surgeon of H.M.S. 'Enterprise,' during a voyage of that vessel through Behring Strait, visits the coasts of Norway annually, especially during the autumn and winter, in some years even in considerable numbers, and specimens

of it are now preserved in several of the museums of this country*.

The winter visitors usually appear in October, and most of the specimens hitherto examined have been obtained during the period from October to December. They consist of both young of the year and adults. Of the latter some are one-year-old individuals, which still (in the second winter) continue to bear their grey plumage, and some are in full summer-plumage, or changing from it to the grey winter-plumage of the third year.

During their visits to the Norwegian coasts these birds, on some occasions, penetrate to the interior of the southernmost fjords (for instance, the Christiania fjord); but most of them appear to stop on the northern shores. Thus they were very numerous in the neighbourhood of Tromsö and several other places to the north of the Polar Circle during the winter of 1892-93, but only a small number, which were shot and offered to museums, were preserved. They also appear to be numerous during the present winter, 1893-94, in some places perhaps even more common than *C. glacialis*. They disappear, as a rule, during the spring and summer, although it is not improbable that stray individuals pass the summer without breeding on the shores of Norway†.

Thus the University Museum of Christiania possesses a specimen shot at the end of July in the Varanger fjord. This is a one-year-old bird, still in its worn and bleached young plumage. Hitherto, however, no specimen from Norway has been obtained in full summer-plumage in the middle of summer, although the Museum of Trondhjem has an adult specimen shot in the Trondhjem fjord in May 1869,

* A preliminary report on this species and its appearance in Norway is published in 'Nyt Mag. f. Naturv.' vol. xxxv. p. 325 (Christiania, 1893-94).—R. C. [See also, as to its occurrence in Great Britain, Sclater, P. Z. S. 1859, p. 206; Seebohm, 'Zoologist,' 1885, p. 144; and Saunders's 'Manual of B. B.' p. 695.—ED.]

† *C. glacialis* is found during the summer scattered about all along the coasts of Norway down to the Christiania fjord, both young (grey) ones as well as specimens in summer dress, which, however, do not breed, although in nuptial plumage.

which had assumed almost full summer-plumage. The Tromsö Museum also possesses a fine specimen shot on the 5th October, 1882, which still retains its entire summer (nuptial) plumage.

Their first appearance.—So long ago as the sixties (or previously) individual examples of *C. adamsi* found their way to some of the museums of this country, but without exciting attention. The first specimen reported and described from the Norwegian coasts was shot at Flekkefjord, at the southern extremity of the land, in November 1875, and was forwarded to the Christiania Museum. It was an old bird in the change from summer- to winter-plumage, and was fully described in 1877, in 'Mindre Medd. 1873-76,' p. 219*. Its total length was 910 mm., and length of wing 410 mm.†

Subsequently, in 1881, Dr. Stejneger (Nyt Mag. f. Naturv. vol. xxvii. p. 120) described an individual in winter-plumage in the Bergen Museum‡, which had been shot in the neighbourhood of that town.

There are fourteen specimens of this species at present preserved in the Christiania Museum, besides which I have examined six specimens belonging to the Museum of Tromsö, one to that of Trondhjem, and two to the Museum at Stavanger.

The number of specimens shot in Norway, which are at present at my disposal, are thus twenty-three, of which thirteen have been obtained in the course of the last three years§. Of these seven are young birds of the year, six are in the second year's autumn and winter plumages (and have never yet attained nuptial plumage), two are essentially

* Nyt Mag. f. Naturv. xxiii. p. 218 (Christiania, 1877).

† When this individual was reported only a single specimen from Europe was known, shot in Suffolk, England, in 1852 (Schäfer, P. Z. S. 1859, p. 206).

‡ This specimen, like that from the Flekkefjord, was subsequently destroyed.

§ After having, in October 1893, called the attention of a few correspondents to this species, I received, previously to the close of the year, five specimens in the flesh (three of them from one locality, viz. the Porsanger fjord, in Finmark).

in their summer (nuptial) plumage, while eight are in the process of change from summer- to the third year's winter-plumage.

Young of the year.—Of these individuals six are young in their first autumn (shot in November and December), and one is a one-year-old bird, shot in June. The young of the year are barely full-grown the first autumn. One from the neighbourhood of Tromsö (the date is wanting) has still a shortish and undeveloped bill. During the first autumn the winter-plumage is (as in *C. glacialis* and *C. arcticus*) recognizable by the light, somewhat sharply-defined margins of the feathers of the back. In shape these feathers are rounded or almost pointed.

The one-year-old bird (South Varanger, 23rd June, 1891) still bears its worn first winter-plumage. The light margins of the upper surface have become bleached, almost whitish, and partly worn, from which the feathers begin to assume the more square-cut edge, which at once distinguishes the back of the adult bird from those of the younger ones.

In the autumn and winter of the second year the birds still retain a grey plumage, which is, however, easily distinguishable from that of the young ones by the colour and shape of the back-feathers. The light margins on the upper parts have been thrown off, and the back, on the whole, has become darker; most of the feathers have a lighter greyish-brown patch where the large white summer spots will subsequently appear. But these patches are often weakly margined and partly indistinct.

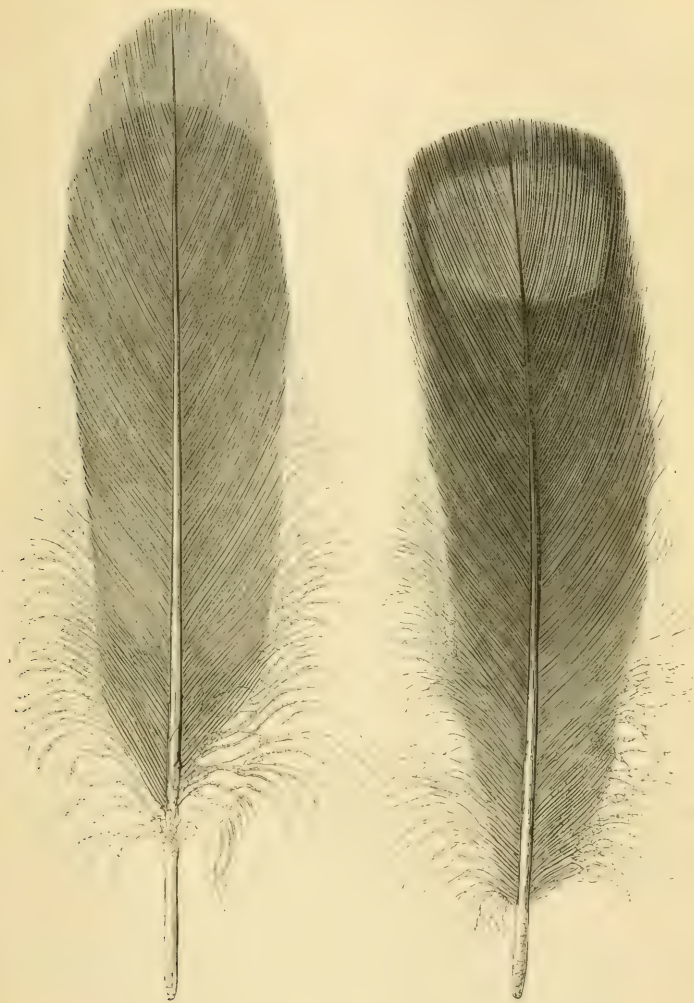
In shape these feathers are somewhat square-cut, as in all old individuals. The bill has attained its full length and shape, and its colour is about the same as in individuals in their nuptial plumage. The lower neck-bar is more or less indicated by the dusky terminal rays on the feathers, which are here more dense and darker than on the throat.

The nuptial plumage is assumed when the individual is at least two years old. It is, however, probable that, as in the case of *C. glacialis*, these birds are not capable of breeding the first year that they put on the nuptial dress.

Only one specimen before me exhibits this plumage during its assumption. This, which belongs to the Trondhjem Museum, and was shot in the Trondhjem fjord at the beginning

Fig. *a*.

Fig. *b*.



Feathers from the back of *C. adamsi*:—*a*. From a bird in first winter-plumage; *b*. From a bird in second or third winter-plumage.

of May 1869, shows how the change from winter- to summer-plumage takes place. At the commencement this is effected by the transformation of a portion of the winter-feathers, while another portion of them is moulted. To these changes are added (subsequently) new summer-feathers in the place of those which have been cast*. On the other hand, a great number of the brown and bleached feathers of the winter-plumage still remain on the back. Their change into summer-feathers is just commencing. This takes place by a combination of shedding the margins and recoloration. The margins, thinned and worn during the course of the winter, are thrown off, whilst at the same time the white summer-spots are developed from the above-mentioned greyish-white patches inside the edges of the feathers.

The recoloration takes place rapidly, probably in the course of a few hours in each individual feather, and it is quite exceptional to find feathers in the course of transformation.

In the specimen last mentioned the head and the neck are almost entirely in summer-plumage, with some (although not full) gloss on the throat and neck-collars. The neck-bars are still not perfectly developed. The nuptial plumage commences to change into the third winter-plumage early in the autumn. In one specimen from the neighbourhood of Tromsö (shot on the 22nd September, 1893) the first winter-feathers had already commenced to appear on the head and neck. In October and November specimens are met with in transitional plumage, in which more or less of the winter-plumage has been assumed. The change, however, takes place rather irregularly. For example, in a specimen in summer-plumage from Balsfjord (1892) the summer-plumage was almost entirely retained on the 5th October. This is probably a three-year-old individual (or perhaps still

* One specimen of *C. glacialis*, belonging to the Stavanger Museum, shot in Ryfylke the 15th June, 1889, is just in this somewhat later stage, in which the back is filled with numerous half-grown and white-spotted summer-feathers, which shoot up between the other winter-feathers changed by recoloration. On the throat and the cheeks some loose white winter-feathers are still found.

older), and it appears as if the summer-plumage of these older and mature individuals were retained longer into the autumn than that of the somewhat younger birds in their *first* summer-plumage.

The third winter-plumage.—The last summer-feathers of these birds are first changed towards the close of the winter. One specimen in the Tromsø Museum, shot in Kvalsund, near Tromsø, on the 11th January, 1893, still retains a number of white-spotted summer-feathers on its back and shoulders. The rest of the plumage belongs, therefore, to the new (third) winter-plumage, which is, on the whole, like that of the winter-plumage of the second year, but the upper rump-feathers and the tail-coverts want the narrow light margins, *i. e.* the remains of the young plumage, which are to be found, more or less defined, in the two-year-old birds. The grey winter-feathers are produced by the throwing off of the margins of the summer-feathers up to the white spots. These lose their colour, and form the same greyish-white patches inside the margin as are described in the winter-plumage of the second year.

The pure winter-plumage of the third year is probably borne for only a short time, as the white-spotted feathers of the summer plumage soon begin to appear.

Distinctness of the species.—Recent observations have made it probable that *C. adamsi* forms a species distinct from *C. glacialis*, being of East-Arctic ("Pacífico-glacial," *Palmén*) origin, whilst *C. glacialis* is diffused over the West-Arctic area. The individuals which arrive on the Norwegian coasts (and shores of the North Sea) during the winter come probably from Siberia, where they appear to be found in summer from Behring Strait to the districts of Yenisei and Taimurland (*Seebohm, Middendorff*). This species was found by the 'Vega' Expedition (1879) breeding in Tschuktschiland, near Kamtschatka, and a sitting female and its eggs were obtained, the only instance yet recorded of its breeding in the Old World (*Palmén, 'Vega' Exped. Results, vol. v. p. 403*).

During the autumn migration a number of individuals

(chiefly immature, although bearing, or having borne, their summer-plumage) follow the shores of the Arctic Ocean down to the North Sea. The specimens in the Norwegian Museums have, as previously mentioned, been obtained both on the southern and northernmost coasts of Norway.

On examining the specimens of *C. adamsi* in the Norwegian Museums, which are at present at my disposal, and on comparing them with examples of *C. glacialis*, I find the following characters to be principally of value :—

- (1) *Size*. Total length about 850 to 900 mm. (and upwards).
- (2) *Shape of the bill*. Culmen straight, shorter than the tarsus*, commissure straight.
- (3) *Colour of the bill*. Whitish yellow.
- (4) *Lower part of the back*. Unspotted.
- (5) *Shafts of the wing-feathers* (down to nearly the tips). Light horn-colour.
- (6) *Lower neck-bar*. With 8 to 10 white stripes; its greatest width is in the middle, and would be contained at least twice in the width of the lower black collar.
- (7) The largest white *dots on the back*. These are contained about one and a half times in the width of the neck-bar.
- (8) *Throat and collars*. Blue-black, with a violet gloss.

Of these characters the last three are applicable only to individuals in their nuptial plumage; the others to those in all plumages, including the fully-grown young birds. No. 5 applies also to the not fully-grown young ones.

When the characters are compared with the corresponding features in *C. glacialis*, the two species will be seen to differ in the following points :—

(1) *The Size*.

The average length of *C. adamsi* is about 870 mm.; large males attain a length of 900 mm. and upwards; one specimen in the Christiania Museum, from the Porsanger fjord, has a total length of 920 mm. The size of *C. glacialis* is somewhat

* The bill barely attains its full length during the first winter.

less, its total length being often under 800 mm., and seldom exceeding 850 mm. The size in both species varies, however, to a considerable extent, and small specimens of *C. adamsi* may scarcely exceed *C. glacialis* in size.

(2) *The Shape and Length of the Bill.*

Whilst in *C. adamsi* the culmen is straight, and the commissure even slightly bent upwards, the culmen in *C. glacialis* is more or less distinctly curved, and the commissure is seldom perfectly straight. The margins of the bill of *C. adamsi* are but slightly curved inwards; in old specimens that of the lower mandible becomes much worn and jagged. On the whole the bill is clearly larger and stronger. In a large specimen of *C. glacialis* the culmen has a length of 86 mm., whilst its average length in *C. adamsi* is 92 mm., and occasionally reaches 98 mm. In mature specimens of the last-named species the culmen is longer than the tarsus; in *C. glacialis* it is shorter. The angle at the symphysis of the lower mandible is, as a rule, more acute in *C. adamsi*, and the line from the gonys to the tip of the bill is quite straight or even concave. But this character varies, and in some specimens of *C. adamsi* the gonys is but slightly more prominent than in *C. glacialis*.

(3) *The Colour of the Bill.*

The colour of the bill in *C. adamsi*, even in young birds of the year, is whitish, a little dusky at the base. As soon as the bill is fully developed in the one-year-old birds, it has already nearly assumed the colour of that of the old birds, which is whitish yellow, but always with a tinge of leaden grey or brown horn-colour near the base. In fresh individuals, as a rule, there is also a horn-coloured portion surrounding the nostrils. In the full nuptial plumage the bill becomes still more bleached, and there only remains a narrow leaden-grey margin along the base of the lower mandible.

In summer-plumage the colour of the bill of *C. glacialis* is black or blackish; in the young birds during the first winter horn-colour. Examples of both species may there-

fore, before their full development, have bills of about the same colour. As a rule, however, the bill is always of a lighter tinge in *C. adamsi*, and its shape, even at a very early stage (together with character No. 5), furnishes a recognizable difference.

(4) *The Colour of the Lower Back.*

In all old birds of *C. adamsi* the lower part of the back is unspotted, whilst in *C. glacialis* that part has small white spots like the upper part of the rump. There, however, appear exceptionally on this part of *C. adamsi* a spot or two, and these spots may be quite evanescent in *C. glacialis*.

(5) *The Colour of the Shafts of the Wing-feathers.*

This is a character of special value in *C. adamsi*, being the only distinguishing feature present even in the young bird, and its investigation will determine in an instant to which species any individual specimen is to be referred. In all the individuals of *C. adamsi* which I have hitherto examined, the shafts are light horn-brown, except the tips, which are brownish black. In this character there is no difference between young and old birds. In *C. glacialis* the whole outer half of the shafts of the wing-feathers is brownish black. The tendency in *C. adamsi* to have the horny portions of the body more lightly coloured than in *C. glacialis* is, but to a less degree, visible in the shafts of the back-feathers and possibly also in the living individual as regards the colour of the claws.

(6) *The Lower Neck-bar.*

The lower neck-bar of *C. adamsi* affords several characteristics. The white stripes are broad; their number seldom exceeds ten, whilst in *C. glacialis* there are double that number or more. The throat-bar also has always a few stripes less than in *C. glacialis*. The neck-bar is comparatively narrow, and its width would be contained twice (or more) in the width of the broad black collar beneath. In *C. glacialis* both bars are about equal in width; occasionally

the neck-bar is broader than the collar. The neck-bar in *C. adamsi* is acutely pointed in front and behind, and its greatest width is at the middle, whilst in *C. glacialis* it is widest behind, and terminates there with almost parallel sides.

Finally, the neck-bars in *C. adamsi* are separated in front by a space which is about equal to its greatest width, whilst in *C. glacialis* they are almost confluent in front.

(7) *The Dots on the Back.*

The white dots on the back are comparatively and absolutely larger in *C. adamsi*, and are contained not quite twice, but as a rule once and a half, in the width of the neck-bar. Thus the largest spots in the specimen in nuptial plumage (from Balsfjord) are of a length of 19 mm., the neck-bar is 34 mm. wide. In *C. glacialis* the relationship is often as 1 to 3 or 4, more rarely as 1 to 2. Some authors have pointed out another character in the number of spots, which, however, appears to be of little value. Their number on the fore part of the back and scapulars is hardly less in *C. adamsi* than in *C. glacialis* (cf. Stejneger, *Nyt Mag. f. Naturv.* xxvii. p. 121). Coues ('Birds of the North-West,' p. 720) points out a difference in their shape*. This character, however, is likewise variable.

(8) *The Colour of the Throat and Neck-collars.*

In *C. adamsi* the front of the upper collar and the whole of the lower (broad) collar are bluish black with a strong violet gloss†, which, however, is absent on the whole of the upper part of the head and on the back of the neck. The boundary where the blue gloss ceases on the sides is sharply defined, and there thus arise indications of a separately-coloured portion, which corresponds to the black throat of *C. arcticus* and the red of *C. septentrionalis*.

* "White spots of back nearly square" in *C. glacialis* (Coues, l. c.).

† This is of course most observable in the full nuptial plumage.

In *C. glacialis* the gloss on these portions is green, but on the lowest portion of the large broad collar (nearest to the white breast) the gloss in *C. glacialis* is also bluish.

The crown of the head is of about the same hue in both species. The female, brought home by the 'Vega' Expedition, shot on the nest (at Pitlekai, Tschuktschi-land, July 10th, 1879) had also, according to Nordquist *, traces of green on the crown.

Habits.—But little information concerning the habits of *C. adamsi* has been obtained on the Norwegian coasts. Some of the specimens were caught in nets, in which they had been entangled when diving. The largest male in the University Museum of Christiania, from the Porsanger fjord (Nov. 1893), was taken on a hook which was laid at a depth of about 15 fathoms.

In the specimens that I have dissected the stomach was filled with remains of fishes, and had a quantity of gravel in it. The last specimen received (from Porsanger in Finmark, Dec. 20th, 1893) contained an example of *Cottus scorpius* (total length 270 mm., a full-grown female filled with roe).

It deserves to be mentioned that, except in the breeding-season, the organs of generation of *C. adamsi* † are remarkably small. I have always found the left testis in the male larger than the right; the latter in the young males is occasionally almost thread-like and interrupted ‡.

LIST OF SPECIMENS AND MEASUREMENTS.

A. *Young, first autumn and winter.*

No. 1.	Tromsö.	Tromsö Museum.
No. 2.	Flekkefjord, 10th Dec., 1879.	Christiania Museum.

* Palmén, 'Vega' Exped. Results, v. p. 404.

† As in the other species of this family.

‡ Concerning the breeding-habits of this Diver there is probably but one observation from the Old World yet recorded. This was made during the voyage of the 'Vega.' On the 3rd of July 1879, at Pitlekai, on the Tschuktschi Peninsula, Palander found one egg near a swamp, and shot the breeding female. The length of the egg was 94 mm., breadth 55.5 mm., weight 15.50 grammes (Palmén, 'Vega' Exped. Results, v. p. 403).

C. *Adult, second autumn and winter.*

	Sex.	Total Length.	Length of Wings.	Length of Tail.	Culmen.	Tarsus.	Locality and date.	Deposited in
No. 8		mm. ?	mm. 398	mm. 64	mm. 94	mm. 93	Tromsö.	Tromsö Museum.
No. 9		849	380	65	89	89	Lister, 23rd Oct., 1893.	Christiania Museum.
No. 10		?	380	64	92	85	Stavanger, 14th Nov., 1888.	Stavanger Museum.
No. 11		850	390	61	?	89	Christiania fjord, 22nd Nov., 1880.	Christiania Museum.
No. 12		?	389	64	90	81	Jøderen, 15th Dec., 1892.	Stavanger Museum.
No. 13		885	395	61	97	95	Porsanger fjord, Finnmark, 20th Dec., 1893.	Christiania Museum.

D. *Adult, second spring (summer-plumage nearly completed).*

	Sex.	Total Length.	Length of Wings.	Length of Tail.	Culmen.	Tarsus.	Locality and date.	Deposited in
No. 14		?	370	63	92	80	Trondhjem fjord, May 1869.	Trondhjem Museum.

E. *Adult, second summer (nuptial plumage).*

	Sex.	Total Length.	Length of Wings.	Length of Tail.	Culmen.	Tarsus.	Locality and date.	Deposited in
No. 15		mm. ?	mm. 419	mm. 68	mm. 97	mm. 95	Balsfjord, Tromsø, 5th Oct., 1882.	Tromsø Museum.
No. 16		?	386	65	93	88	Tromsø, 22nd Sept., 1893.	Tromsø Museum.
No. 17		?	390	64	89	83	Nedencoes.	Christiania Museum.
No. 18		♂ 920	410	77	98	94	Porsanger fjord, 2nd Nov., 1893.	Christiania Museum.
No. 19		♀ 855	393	65	90	87	Christiania fjord, 9th Nov., 1886.	Christiania Museum.
No. 20	...	?	390	60	91	88	Tromsø, Dec. 1892.	Tromsø Museum.
No. 21		?	405	63	85	84	Tromsø, 13th Dec., 1892.	Christiania Museum.
No. 22		♀ 855	393	68	90	86	Kvæddfjord, Senjen, 28th Dec., 1892.	Christiania Museum.
No. 23		♂ ?	390	65	93	90	Kvalsund, Tromsø, 11th Jan., 1893.	Tromsø Museum.

F. *Adult, third autumn and winter (transition plumage).*

No. 3.	Flekkefjord, 15th Dec., 1875.	Christiania Museum.
No. 4.	Tromsö, 13th Dec., 1892.	Christiania Museum.
No. 5.	Næsodden, Christiania fjord, 24th Nov., 1893.	Christiania Museum.
No. 6.	Porsanger fjord, Finmark, 8th Dec., 1893.	Christiania Museum.

B. *Young, one year old (summer).*

No. 7.	Kjelnö, Varanger, 23rd June, 1891.	Christiania Museum.
--------	------------------------------------	---------------------

(List continued, p. 281.)

XXI.—*On the Scientific Names of the Imperial and Spotted Eagles and on the Generic Names of Bonelli's Eagle and the Black Eagle.* By W. T. BLANFORD, F.R.S.

1. THE IMPERIAL EAGLE.

Falco mogilnik of S. G. Gmelin (Nov. Comm. Petrop. xv. 1770, p. 445, pl. xi. b) has for the last few years been quoted by so many writers as the oldest name of the Imperial Eagle found in Central and Eastern Europe and Northern Africa, and throughout a great part of Asia, that I was greatly surprised, on comparing the bird with the original description and figure, to find how extremely doubtful the identification is. Of course this might have been expected from the circumstance that Dr. Bowdler Sharpe (Cat. Birds B. M. i. p. 240, 1874) has identified one species with Gmelin's name, whilst Mr. Dresser ('Birds of Europe,' pt. 19, 1873) has identified another, but the two species had almost up to the dates mentioned been supposed by ornithologists in general to be the same Eagle in different plumages. The Eagle referred to *Falco mogilnik* by Dr. Sharpe is that now known as the Steppe Eagle, *Aquila bifasciata* of J. E. Gray (not of Brehm) = *A. nipalensis* of Hodgson. The species to which the name was applied by Mr. Dresser is the well-known Imperial Eagle (*A. heliaca*, Sav., and *A. imperialis*, Bechst.).

Dr. Sharpe's identification of S. G. Gmelin's *Falco mogilnik* has not met with general acceptance, but Mr. Dresser's view, which was also that of the late Mr. Gurney, has been extensively adopted, especially by

Indian ornithologists. In his article on *A. nipalensis*, in the 'Birds of Europe,' v. p. 511, Mr. Dresser writes, "I have again most carefully examined Gmelin's figure and description, and am more than ever satisfied that it refers to the immature Imperial Eagle." Mr. Gurney, our best authority on Eagles, wrote (*Ibis*, 1873, p. 99), "The more Eastern species (*i. e.* of Imperial Eagle) should bear its oldest synonym (that under which its immature plumage was figured and described by J. G. Gmelin*) of *Aquila mogilnik*."

It is with much hesitation that I venture to differ from ornithologists who have given so much careful attention to the nomenclature of Eagles. There is, however, this to be said: since Messrs. Gurney and Dresser wrote, Mr. Hume's magnificent series of Indian bird-skins and numerous other specimens have been added to the National Collection, and our opportunities of studying these birds in their various plumages are much better than those that existed 15 or 20 years ago. There are now in the stores brought together under Dr. Bowdler Sharpe's charge dozens of skins of young Imperial Eagles, always to be recognized and distinguished from the young of every other Palearctic Eagle by the broad pale median stripes on the feathers, of the lower parts especially. S. G. Gmelin's figure of *Falco mogilnik* is uncoloured; but this is of little importance, as the markings of a young Imperial Eagle could have been equally well shown in black and white. Not only, however, are there no traces of any pale stripes in the figure, but, on the contrary, there are distinct indications of dark shafts to the feathers of the neck, breast, and wing-coverts. Now this is, so far as I am aware, a character entirely foreign to both the Imperial Eagle (*A. heliaca*, v. *imperialis*) and the Steppe Eagle (*A. bifasciata*, v. *nipalensis*). But for these dark shafts the figure might have been referred to the Steppe Eagle, as was done by Dr. Sharpe, for the double band on the wing, produced by the pale tips of the greater coverts and secondaries (whence the name *bifasciata*), is distinctly shown.

Gmelin's measurements are numerous, but for the most

* A slip or misprint for S. G. Gmelin.

part useless; the only dimensions that can be compared are length 2' 3" 1"', expanse 4' 6", mid toe and claw 3", outer do. 1" 9", inner do. 2" 3"', hind do. 1" 6"', and tail 1' 0" 9". It is not quite clear what the foot and inch used are*, but if, as is probable, they are the old French "pied de roi," the English equivalents would be—length 28·86 inches, expanse 57·5, mid toe and claw 3·2, outer do. 1·86, inner do. 2·3, hind do. 1·6, and tail 13·6. The relation of the length to the breadth or expanse is quite unnatural, and both are probably taken from a stuffed specimen. The hind toe and claw are shorter than those of any true Eagle†.

In Gmelin's description of *F. mogilnik* the nostrils are described as *transverse ovales*. This excludes the Spotted Eagles and *Aquila fulvescens*. The head, neck, back, and wings are said to be "*fusci s. obscure ferruginei*," "*pennis albis raro et vagè intermixtis*." The description continues: "*prona pars corporis dorso penitus concolor, hac tantum cum differentia, quod albedo omnis exulet. Pennæ pedes usque ad exortum digitorum, quemadmodum in Bubone, dense tegunt, dorsique pariter colorem præ se ferunt, rufum autem largius subinde iis admixtum video*." Now in the Golden Eagle the white of the basal part of the feathers shows on the back

* There is said to have been an old Russian foot of $13\frac{3}{4}$ English inches, but I have been unable to ascertain how it was subdivided. If this foot was used by Gmelin, the length of his bird would have been 31 English inches, expanse 61 $\frac{7}{8}$, hind toe and claw 1·7, tail 14·6. The whole length and that of the tail would in this case be equal to those of a male Golden Eagle.

† In Hume's 'My Scrap-Book, or Rough Notes on Indian Oology and Ornithology,' there is, as is well known, a most valuable series of measurements, in English inches, from fresh specimens. Those of the Imperial Eagle (p. 154) are:—

	Male.		Female.	
	in.	in.	in.	in.
Length	28·5	to 30·5	30·0	to 32·63
Expanse	69·0	to 76·0	70·0	to 85·0
Mid toe.....	2·37	to 2·63	2·6	to 2·88
Its claw (round curve) ..	1·25	to 1·31	1·63	to 1·75
Hind toe	1·0	to 1·13	1·06	to 1·31
Hind claw (round curve)..	1·63	to 1·75	1·88	to 2·13
Tail	10·5	to 12·5	12·0	to 14·0

but not below, and the thighs are rufous, so that the coloration is suggestive of *A. chrysaëtus*; but the hind toe and claw in the Golden Eagle measure more than 3 inches. I cannot see any particular resemblance to the Imperial Eagle, nor to the Steppe Eagle, old or young, in this description.

The obvious conclusion appears to me that *Falco mogilnik* cannot be safely recognized, and that the name should be altogether dropped.

One reason which had considerable influence with Mr. Dresser in inducing him to accept S. G. Gmelin's specific term for the Imperial Eagle was the fact that *mogilnik* is said by several Russian writers to be the Russian name for that species. But I doubt whether the different kinds of large Eagles found in Russia are popularly distinguished by different names, and even if they are I should attach but little weight to the name applied to any bird by the people in general. As everyone is aware, any Eagle killed in England is always supposed by the people and declared by the newspapers to be a Golden Eagle, though it usually belongs to a different genus. A "Monâl" in the Western Himalayas is *Lophophorus impeyanus*, in Sikkim it is *Cerionis satyra*. Even where animals are well known and distinguished by the inhabitants, naturalists have blundered, as when General Hardwicke gave to the four-horned antelope a specific name, Chickara, that belongs only to the Indian Gazelle. Nothing would be easier than to quote examples in abundance of the untrustworthiness of native names for birds and mammals.

The next name usually quoted for the Imperial Eagle, *A. heliaca*, Savigny (Deser. de l'Egypte, p. 459, pl. 12, 1810), appears to be that which must be used for the species, the coloured plate being, I think, a good representation of the adult bird. This name has been adopted by Dr. Sharpe in the British Museum Catalogue.

2. THE SPOTTED EAGLE.

I quite agree with Mr. Dresser's views ('Birds of Europe,'

v. p. 493) as to *Falco nævius* of Gmelin (Syst. Nat. i. p. 258) not being the Spotted Eagle. The name was founded on Brisson's *Aquila nævia* (Orn. i. p. 425), a species not seen by Brisson, as he has not appended an asterisk to the name, but of which, as Mr. Dresser has shown, the description was copied from Schwenckfeld's description of the Common Buzzard. Brisson also, it is true, quoted in the synonymy of his *A. nævia*, the *Morphno congener* of Aldrovandi and Willughby, but stated that the figure was not sufficiently accurate, whilst he also cited "*Buteo*, Frisch, hujus icon accurata, Tab. 71." I have not access to Frisch's figure, but Mr. Dresser has shown that it cannot be identified with the Spotted Eagle.

On the whole there can, I think, be very little doubt that *Aquila nævia* of Brisson and *Falco nævius* of Gmelin must be regarded as names probably applying to the Common Buzzard.

As regards *Falco maculatus*, Gmelin (Syst. Nat. i. p. 258), the case is different. The name is founded on the *Morphno congener* of Ray and Willughby and the "Spotted Eagle" of Latham. The first name was taken by both Ray and Willughby from Aldrovandi, from whom Ray's description and Willughby's description and figure were copied. Aldrovandi's description (Orn. i. p. 214) runs: "Color totius prope ferrugineus est, nisi quod ad extremas alas versus ventrem attinet, maculis multis ovalibus et hic inde sparsis insignaretur." The length was said to be $3\frac{1}{2}$ spans. There is nothing in this inconsistent with the Spotted Eagle. The figure is poor and does not help much. Latham's account of the Spotted Eagle is taken from a specimen in the British Museum, and, as Mr. Brooks showed ('Stray Feathers,' iv. pp. 268-271), agrees perfectly with the immature large Spotted Eagle and with no other. The description (Syn. i. p. 38) runs thus:—"The scapular feathers and wing-coverts are each marked with an oval whitish spot at the end, which spots become larger as they are lower on the wings, and in the greater coverts they occupy almost the whole breadth of the feather, giving the wings a most beautiful appearance ;

the feathers on the middle of the back are likewise spotted, but of a pale buff colour." It should be added that Gmelin's name and details are taken from Latham, so that it is perfectly correct to say that *Falco maculatus* of Gmelin is founded on Latham's Spotted Eagle. The only objection to identifying the name *maculatus* with the large Spotted Eagle is that the length is said by Latham to be two feet, whilst the large Spotted Eagle measures more. But, as Latham's measurement was taken from a stuffed specimen, the objection appears to me of no weight in face of the exact correspondence of Latham's description with the young Spotted Eagle.

The name of *Aquila clanga*, Pallas (Zoogr. Ros.-As. i. p. 351), has been adopted by Dresser ('Birds of Europe,' v. p. 499), Sharpe (Cat. Birds B. M. i. p. 218), and Gurney (Ibis, 1877, pp. 329-333) for the larger Spotted Eagle, and I believe correctly. Pallas identifies the species with the *Morphno congener* of Aldrovandi.

Dr. Sharpe, in the British Museum Catalogue, has adopted *A. maculata* as the name for the Spotted Eagles generally, and has distinguished the large Spotted Eagle (called *A. clanga*) and the small Indian (*A. hastata*) as subspecies. I believe these three Eagles must be regarded as perfectly distinct species, and that the name *A. maculata* belongs to the large form. I am not quite sure about the name of the smaller European Eagle called *A. pomarina* by Mr. Dresser and *A. rufo-nuchalis* by Messrs. Brooks and Gurney, but the subject has been fully discussed by the latter (Ibis, 1877, p. 330).

3. *The Generic Name of BONELLI'S EAGLE.*

Dr. Sharpe (Cat. Birds B. M. i. p. 249) and Mr. Gurney (Ibis, 1877, p. 419) quote Bonelli's Eagle, *Aquila fasciata*, as the type of Hodgson's genus *Nisaëtus*. Jerdon had previously in 1862 described the species as *Nisaëtus bonellii*, in the 'Birds of India,' vol. i. p. 67, and at the same time had pointed out that in Hodgson's original description of the genus (Journ. As. Soc. Bengal, v. p. 238, 1836) a species of *Limnaëtus* was included, as well as Bonelli's Eagle. Hodgson's genus, in fact, as originally proposed, contained

two species, *N. nipalensis* and *N. grandis*, the latter being a synonym of *Aquila fasciata* v. *bonellii*, but on the plate (pl. vii.) accompanying Hodgson's paper the title runs "*Nisaëtus nipalensis*, type of the new genus *Nisaëtus*." Now *N. nipalensis* is a *Spizaëtus*, or a *Limnaëtus* if the Oriental species are placed in a distinct genus, and both these generic names have priority over *Nisaëtus*. Had not Hodgson specially designated *N. nipalensis*, it would have been perfectly permissible to make *N. grandis* (*Aquila fasciata*) the type of his genus, but under the circumstances this cannot be done, and the name *Nisaëtus* becomes a synonym. The earliest generic name for Bonelli's Eagle is, I think, *Eutolmaëtus*, Blyth (Journ. As. Soc. Bengal, xiv. p. 174, 1845), but some naturalists are disposed to unite Bonelli's with the Booted Eagle (*A. pennata*), the type of *Hieraëtus*, and the two birds are certainly allied.

4. The Generic Name of the BLACK EAGLE (*Falco malayensis*, Reinw.).

This remarkable form appears to have actually received two generic names in what is virtually the same paper, one published by Mr. B. H. Hodgson in 1843 (Journ. As. Soc. Bengal, xii. p. 128) with a postscript by Blyth. Hodgson proposed the generic name of *Heteropus* for the bird previously described by him as *Aquila pernigra*. In the postscript Blyth mentioned that this same bird had been named by Jerdon first *Nisaëtus ovivorus*, with a double mark of doubt as to the genus, and then *Ictinaëtus ovivorus*. The species has long been known by its earliest title *malayensis*, published by Temminck in the 'Planches coloriées.'

Subsequently, in 1844, Hodgson discarded the name *Heteropus*, which had been previously applied to various genera of insects, and adopted the term *Neopus* (Gray's Zool. Misc. p. 81), which has been generally used since, even by Jerdon himself in his 'Birds of India.' The only important exception is that Blyth, in his Catalogue and J. A. S. B. xv. p. 7, used *Ictinaëtus*, as it appears to me, justly, for this generic name appeared a year before *Neopus* did. I think, therefore, that the Black Eagle should be called *Ictinaëtus malayensis*.

XXII.—*Bulletin of the British Ornithologists' Club.*

Nos. XIII.—XV.

No. XIII. (Dec. 30th, 1893.)

THE twelfth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 20th of December, 1893.

Chairman : HENRY SEEBOHM.

Members present :—E. BIDWELL, P. CROWLEY, W. R. OGILVIE GRANT, E. HARTERT, E. G. B. MEADE-WALDO, T. J. MONK, P. W. MUNN, H. J. PEARSON, F. PENROSE, HOWARD SAUNDERS (*Treasurer*), R. BOWDLER SHARPE (*Editor*), H. H. SLATER, F. W. STYAN, A. B. R. TREVOR-BATTYE.

Visitor : J. M. MITCHELL.

MR. MEADE-WALDO exhibited a series of clutches of curiously-marked eggs of the Common Blackcap (*Sylvia atricapilla*), from the Canary Islands.

MR. ERNST HARTERT exhibited the type of a new species of Snipe in the Tring Museum, for which the Hon. Walter Rothschild had furnished the following description :—

“In No. IX. of the *Bulletin* Canon Tristram described a new Snipe from the Snares under the name of *Gallinago huegeli*, and mentioned that the Snipe from Antipodes Island would probably be also new. Having received a specimen from that locality, I find Canon Tristram's surmise to be right, and have much pleasure in naming the species after him

Gallinago tristrami, sp. n.

“The new species is nearest in pattern to *G. aucklandica*, Gray, but differs from its three allies in its deeper rufous-brown colour and its much larger size. Under surface brownish buff, with the flanks barred as in *G. huegeli*, Tristr., and not lunulated as in *G. aucklandica*, Gray, and *G. pusilla*, Buller. Wing 4.4 (4 in *G. aucklandica*, about 3.8 in *G. pusilla*, 4.2 in *G. huegeli*), bill 2.6 (2.3 in *G. aucklandica*,

1·6 to 1·9 in *G. pusilla*, 2·25 in *G. huegeli*), tail 2·2 (1·75 in *G. aucklandica*, about 1·5 in *G. pusilla*, 1·6 in *G. huegeli*).

“*Hab.* Antipodes Island.”

MR. HARTERT remarked that the locality given by Mr. Ogilvie Grant for *Lophophorus sclateri* in his recently published volume of the ‘Catalogue of Birds’ (vol. xxii. p. 282) required a slight alteration. The locality was given as the “Hills east and south-east of Sadiya,” but Mr. Hartert stated that he believed that the species was entirely confined to the high Mishmi Hills, which form part of the Himalayas to the north of Sadiya. The hills to the east and south-east of the last-named place did not rise to any great height, and during a residence of two months at Sadiya he had never heard of any specimens of this species being brought from any other locality but the Mishmi Hills.

MR. HOWARD SAUNDERS described a new species of Great Skua from Victoria Land. Five specimens were in the British Museum, two of which had been recently bequeathed by the late Dr. McCormick, R.N., who had procured all the specimens during the Antarctic Expedition of 1841. The name proposed by Mr. Saunders was

Stercorarius maccormicki, sp. n.

Similis *S. antarctico*, primariorum albedine magis extensâ, sed gastræo dilutiore, pallide grisescenti-brunneo, nuchâ et collo undique dilute stramineo striolatis distinguendus. Long. tot. 22 poll., alæ 16.

Hab. Possession Island, Victoria Land. Lat. 71° 14' S., long. 171° 15' W.

A communication from Dr. TH. PLESKE was read, describing some new species of Tits from the collection of the St. Petersburg Museum. Dr. Pleske proposed the following names:—

1. *ACREDULA CALVA*, sp. n.

Allied to *A. glaucogularis*, Swinh. Forehead, lores, and a patch on the crown white, instead of clay-colour; back

uniform bluish-grey; breast and abdomen pure white; flanks more tinged with vinous-red. Length of tail 79–88·5 millim., instead of 61–69 millim. in *A. glaucogularis*.

Hab. Upper Chuan-che, China.

2. *CYANISTES BEREZOWSKII*, sp. n.

Allied to *C. flavipectus*, Severtz. Crown of head tinged with smoky grey instead of bluish; no loreal streak continued behind the eye; collar on the hind neck narrow, dingy in colour, sometimes scarcely perceptible; no patch on the abdomen.

Hab. Upper Chuan-che, China.

Dr. Pleske further remarked that *Pæcile songara*, Severtz., from the Tian-Shan, with a black cap, was quite distinct from *Pæcile affinis*, Przew. (with dusky brown ear-coverts), from the Upper Chuan-che and Kansu. *L. dichroides*, Przew., was also said to be distinct from *L. dichrous* (Hodgs.). The Penduline Titmouse from Central Asia (South Siberia, Dshungaria, Eastern Turkestan, and Western China) represented a distinct form of *Ægithalus*, allied to *Æ. pendulinus* of Europe; it must stand as *Ægithalus stoliczkæ*, Hume.

Dr. R. BOWDLER SHARPE communicated some notes on African Coursers, with descriptions of the following new species:—

1. *RHINOPTILUS SEEBOHMI*, sp. n.

R. similis R. cincto (Heugl.), sed major, fasciâ post-auriculari lætè castaneâ nec nigricante, et rectrice penultimâ extus nigro fasciatim maculato distinguendus. Long. tot. 9 poll., alæ 6·5, tarsi 2·5.

Hab. in provinciâ Ovampensi terræ Damarensis.

Typus in Mus. H. Seebohm.

2. *RHINOPTILUS HARTINGI*, sp. n.

R. similis R. bisignato, sed suprâ cinnamomeus et gastræo isabellino distinguendus. Long. tot. 6·8 poll., alæ 4·9–5·6, tarsi 1·8.

Hab. in provinciâ Somalensi Africæ orientalis.

Typus in Mus. H. Seebohm.

3. RHINOPTILUS ALBOFASCIATUS, sp. n.

R. similis R. chalcoptero, sed fasciâ alari latâ albâ, et præcipuè rectricibus centralibus haud albo terminatis distinguendus. Long. tot. 10 poll., alæ 6·8, tarsi 2·85.

Hab. in Africâ meridionali.

Typus in Mus. Brit.

Dr. Sharpe further remarked that *R. gracilis* of Fischer and Reichenow proved to be identical with *R. bisignatus* of Hartlaub, of which the type was in the British Museum.

Mr. SEEBOHM drew attention to the apparent cross-lines of migration which take place in Eastern Siberia and the extreme North-west of America, whereby several Nearctic species visit the Eastern Palearctic Region—such as *Turdus alicia*, *Junco hyemalis*, *Dendræca coronata*, and *Siurus noveboracensis*; while it was a well-known fact that some Palearctic species, such as *Phylloscopus borealis*, *Pyrrhula cassinii*, *Motacilla flava*, and *Cyanecula suecica*, are visitors to Alaska.

No. XIV. (Jan. 25th, 1894.)

THE thirteenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 17th of January, 1894.

Chairman: P. L. SCLATER, F.R.S.

Members present:—E. BIDWELL, H. O. FORBES, W. GRAHAM, E. HARTERT, J. E. HARTING, H. J. PEARSON, F. PENROSE, H. E. RAWSON, HOWARD SAUNDERS (*Treasurer*), W. L. SCLATER, H. SEEBOHM, R. BOWDLER SHARPE (*Editor*), C. J. WILSON, J. YOUNG.

Visitor: CHAS. GIBSON.

THE CHAIRMAN called the attention of the meeting to the retirement of Dr. Jean Cabanis from the Editorship of the 'Journal für Ornithologie,' after having founded that journal and edited it for 41 years. The following resolution was carried unanimously:—

“That the sincere thanks of the B. O. C. are due to Dr. Jean Cabanis for his able conduct of the ‘Journal für Ornithologie’ for a period of 41 years, and that the best wishes of the Club be offered to him on his retirement.”

The Hon. WALTER ROTHSCHILD sent for exhibition a series of Snipes from various islands of the New Zealand region, together with the following remarks:—

“Since I laid before the B. O. C. the description of *Gallinago tristrami* I have received seven more specimens of *G. huegeli*, Tristr., and *G. aucklandica*. Of these the two of *G. huegeli* are labelled, one as coming from Auckland Island and the other from Antipodes Island. Now *G. huegeli* is supposed to be confined to the Snares, the two only known specimens having come from there. Mr. Danneferd, who sent my specimens, gets most of his island-birds from the crew of the ‘Hinemoa,’ and I have more than once noticed in collections made by them for Sir Walter Buller that the labelling was most careless and incorrect. On the other hand, Danneferd positively states in a letter that one Snipe came from Antipodes Island and the other six from Auckland Island, and specially mentions that he sent examples of two species from Auckland Island. Personally I am more inclined to doubt the accuracy of the labelling than the possibility of two isolated islands (Auckland and Antipodes Is.), more than 500 miles apart, presenting the very unusual fact of two quite distinct species of Snipe (*G. huegeli* and *G. aucklandica*) on the one, and one of them only (*G. huegeli*) on the other, while on a neighbouring group (Chatham Is.) we have a third distinct and somewhat intermediate form. Lastly, we should have the still more incredible fact that *G. huegeli* occurs in company with *G. aucklandica* on Auckland Island and with *G. tristrami* on Antipodes Island, while on the Snares it is the sole species of Snipe, and on the Chatham Islands *G. pusilla* alone is found. The rather unfortunate doubt as regards the locality of some of my specimens, however, does not, in my opinion, interfere with the fact that

there are four distinct species of Antarctic Snipe, as the series now laid before you by Mr. Hartert shows."

To illustrate these notes Mr. Hartert laid on the table more than 40 skins of *G. pusilla*, 6 of *G. aucklandica*, 3 of *G. huegeli*, and 2 of *G. tristrami*.

In the discussion on Mr. Rothschild's paper which ensued, Mr. H. O. Forbes pointed out that the Snipe of which he had found sub-fossil remains on the Chatham Islands, and to which he had given the name of *Gallinago chathamica*, appeared to agree in length of bill with *G. tristrami*.

Dr. BOWDLER SHARPE made some remarks upon the geographical distribution of the Herons of the genus *Butorides*, of which he recognized eight different species and subspecies, as follows :—

1. BUTORIDES ATRICAPILLA (Afzel.).

Hab. Africa and Madagascar.

Of this, *B. rutenbergi* (Hartl.) seems to be the ordinary winter dress.

2. BUTORIDES STRIATA (L.).

Hab. S. America, from Colombia and Venezuela to Peru, Southern Brazil, and the Argentine Republic.

3. BUTORIDES JAVANICA (Horsf.).

Hab. India generally and Ceylon east to Southern China, and south throughout the Burmese countries to the Malayan Peninsula and Indo-Malayan Islands as far as Celebes.

It is this Indian form which inhabits the islands of the Chagres group, as well as Mauritius, Rodriguez, the Seychelles, and the Comoro Islands. In Madagascar, however, the African form, *B. atricapilla*, occurs.

Subsp. α . BUTORIDES AMURENSIS (Schrenck).

Hab. Amoor Land and the Japanese Islands, extending south to Southern China (Canton ; Amoy), Formosa, the Philippine Islands, and Labuan.

This is simply a very large race of *B. javanica*, which has been identified by some authors with the Australian *B. stagnatilis*.

Subsp. β . BUTORIDES SPODIOGASTER, subsp. nov.

Similis *B. javanicæ*, sed omninò saturatio, fuliginoso-schistacea, abdomine sordidè cervino. Long. tot. 17·5 poll., alæ 6·7.

Hab. Andaman Islands and Nicobars.

This race is of a so much darker leaden-grey colour than *B. javanica*, especially on the neck and sides of the body, that the two birds are easily recognized on comparison. The Australian race, *B. stagnatilis*, is still darker than *B. spodiogaster*, and has a much darker rust-colour on the abdomen.

Subsp. γ . BUTORIDES STAGNATILIS.

Hab. Northern and Eastern Australia to New Guinea and throughout the Moluccas to Timor and Flores, and eastwards to the Solomon group, New Caledonia, the Fiji, Society, and Friendly Islands.

There seems to be but one species of *Butorides* in Australia, *B. macrorhyncha* of Gould being founded on the winter plumage of *B. stagnatilis*.

4. BUTORIDES PLUMBEA (Sundev.).

Hab. Galapagos Islands.

5. BUTORIDES VIRESCENS (L.).

Hab. North America generally, ranging throughout Central America to Panama and Venezuela, as well as the Greater and Lesser Antilles.

After the examination of a large series of Green Bitterns from America, Dr. Sharpe stated his inability to recognize more than one species, viz. *B. virescens*, several of the forms and subspecies recently described having been apparently founded on differences of plumage to be accounted for by age and season.

A communication was read from Mr. G. E. H. BARRETT-HAMILTON respecting two examples of the American Red-

breasted Snipe, taken respectively on the 29th of September in Queen's Co. and in Tipperary on the 11th of November. The latter was tentatively referred to the Western form, *Macrorhamphus scolopaceus*.

Mr. J. E. HARTING exhibited a specimen of a rare Australian Duck (*Stictonetta naevosa*) from Gippsland.

Mr. H. J. PEARSON made some remarks on the birds observed by himself and Mr. Bidwell during a recent trip to Norway.

No. XV. (March 8th, 1894.)

THE fourteenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 21st of February, 1894.

Chairman: P. L. SCLATER, F.R.S.

Members present:—E. BIDWELL, PHILIP CROWLEY, W. E. DE WINTON, W. GRAHAM, E. NEALE, F. MENTEITH OGILVIE, W. R. OGILVIE-GRANT, H. J. PEARSON, F. PENROSE, T. DIGBY PIGOTT, C.B., Major R. G. WARDLAW RAMSAY, R. H. READ, HOWARD SAUNDERS, H. SEEBOHM, R. BOWDLER SHARPE, F. W. STYAN, W. B. TEGETMEIER, Capt. H. A. TERRY, C. J. WILSON, JOHN YOUNG.

Visitors: Dr. J. R. BRADFORD, C. PEARSON, H. STEVENS.

Mr. E. BIDWELL exhibited his set of photographs of eggs of the Great Auk (*Alca impennis*), and stated that the series laid before the Members comprised illustrations of every known specimen except four. By the kind permission of Mr. Stevens, Mr. Bidwell was also able to exhibit to the meeting the egg of the Great Auk which was to be sold by auction on the morrow. It was an object of great interest to all the members present, as it was originally the property of Yarrell, and after his death passed into the hands of his friend Frederick Bond, along with the rest of whose collection it was ultimately purchased by Baron d'Hamonville.

Mr. SEEBOHM exhibited an example of the North-Australian Ground-Thrush, *Geocichla heinii* (Cabanis) = *Oreocincla iodura* of Gould, and remarked as follows:—"This specimen has a very curious history. About the year 1836 it was sold by Brandt, the well-known Hamburg taxidermist, to Baron von Gyllenkrog. Brandt asserted that it had been shot on Fyen (Fühnen), the large island at the south-east corner of Jutland. On the death of the Baron it became the property of the governors of the University of Lund, in Sweden. The veteran ornithologist of Heligoland erroneously identified it with the Himalayan Ground-Thrush, and recorded it as *Turdus dauma* (see Gaetke, Vogelw. Helgoland, p. 245), asserting that the alleged locality was erroneous—an assertion which is probably correct, and substituting the statement that it had been caught on Heligoland in the days when Koopman and the elder Reymers, the well-known Heligoland bird-stuffers, were in the habit of sending skins to Brandt—a statement which is probably incorrect. Curiously enough, the type of *Geocichla heinii* in the Museum of Oberamtman Ferdinand Heine at Halberstadt was purchased of a dealer (probably the same Brandt of Hamburg), with the locality 'Japan' attached to it. In the Lund specimen, which I am able to exhibit to-night, thanks to the courtesy of the authorities of that Institution, the russet (rather than olive) tone of the upper parts, the absence of pale subterminal spots on each feather of the same, conclusively prove that it cannot be either the Siberian or the Himalayan *Oreocincla*, whilst its small size, short tail, and large white terminal patch on the outer rectrices show its distinctness from its near ally in South-east Australia (*G. lunulata*), and prove the species to be *G. iodura* (Gould). It is satisfactory to be able to relieve the list of European birds of a species like *G. dauma*, so thoroughly Indian and non-migratory that its occurrence in Heligoland was difficult to account for."

Mr. SCLATER exhibited a kind of needle used by the natives of Northern Queensland for the purpose of weaving bags to hold "*Pituri*" (leaves of an intoxicating plant). The needle

was made of a portion of the stem of the feather of a bird (apparently a species of Ileron), with the vanes and part of the shaft removed, and the twisted thread was neatly attached to an "eye" at the larger end.

Mr. SCLATER also exhibited a skin of a Rail—*Amaurolimnas concolor* (see Sci. & Salv. P. Z. S. 1868, p. 452),—sent to him by Prof. Nation, of Lima, and made remarks on the geographical distribution of this species.

This Rail was new to the fauna of Western Peru, and the specimen had been procured in a valley some 10 or 12 miles distant from Lima. It was a female, with the "bill green and the feet and irides crimson."

On behalf of Canon TRISTRAM, Mr. SCLATER further exhibited the second known specimen of *Coracias weigalli*, Dresser (Mon. Rollers, pl. vi.) from Newala, E. Africa—the same locality from which came the original type, which had been unfortunately lost. This specimen served to confirm the validity of the species, which had been impugned by Dr. Sharpe (Cat. B. xvii. p. 23).

Mr. DIGBY PIGOTT, C.B., exhibited some specimens of shingly beach from Suffolk, in which the stones were spotted in such a peculiar manner that it became almost impossible to detect the eggs of Terns, which chose these surroundings for their nesting-place.

A beautiful series of eggs of the Herring-Gull (*Larus argentatus*) from N.E. Norway were shown by Mr. H. J. PEARSON, and amongst them were some abnormally coloured eggs of a reddish hue. Mr. Pearson also exhibited some remarkable sets of eggs of Temminck's Stint (*Actodromas temmincki*), Dotterel (*Eudromias morinellus*), and other birds.

Mr. F. D. GODMAN sent for exhibition an Emu's egg of a beautiful blue colour, which had been laid by a bird in Sir E. Loder's park in Sussex. It was evident that the colouring of the egg, though of such a fine tint, was

incomplete, as the shell was characterized by an absence of the green granulations usually seen in the egg of the Emu (*Dromæus novæ-hollandiæ*).

Mr. HOWARD SAUNDERS made some remarks upon the geographical distribution of the members of the Herring-Gull group of Laridæ, viz. *Larus argentatus* and the allied species. His conclusions were as follows:—"Typical *Larus argentatus*, with a pale grey mantle and flesh-coloured legs and feet, inhabits the coasts of the Northern Atlantic from Lapland to Iceland and Greenland; while in the Polar Sea it is found as far north and west as the North Georgian Islands, leaving a comparatively small gap in the direction of Bering Straits, where it is apparently absent. Southward it is found on both sides of America, more sparingly on the Pacific side, down to Mexico; in Europe its range extends down to mid-France. On the coast of France commences the range of *L. cachinnans*, a species with a somewhat darker mantle and bright yellow legs, and bright orange-red ring round the eye. This form frequents the Peninsula, the Azores, Madeira, Canaries, the Mediterranean and North Africa, stretching eastward through the Caspian Steppes and Southern Siberia to Lake Baikal, and visiting India in winter. Between the White Sea and the Taimyr Peninsula (where Cape Chelyuskin reaches about 77° N. lat.) there seems to be a break of continuity as regards any grey-mantled species, but thence to Bering Straits a form appears which differs from the southern race in having *flesh-coloured legs and feet*. This species, named by Prof. Palmén *L. argentatus* var. *vegæ*, ranges in winter to Japan and China, where it has been erroneously named *L. occidentalis*, and, more excusably, *L. cachinnans*—excusably, because there was until lately no record of the colour of the legs in life, and these had dried orange-yellow in preserved specimens. All the above-mentioned forms may be considered to be sub-species of *L. argentatus*. Along Kamtschatka, in the Sea of Okhotsk, and through the Kurile Islands to Hakodate in Northern Japan, another larger and much darker-mantled Gull is met with, with purplish-

red legs, and a slightly different pattern on the primaries, in this respect intermediate between *L. argentatus* and *L. marinus*, though nearest to the former. This is *L. schistisagus* of Stejneger, and is quite a good species. Turning westward, we find *L. fuscus*, extending from the Faroes and Scandinavia to the Mediterranean (where it breeds), and also occurring in the Red Sea; a species which varies considerably in the intensity of colour in the mantle, but which is specially characterized by its chrome-yellow legs and small feet. From the Dwina and the White Sea, eastwards to the Petchora, Ob, and Yenesei rivers, visiting the north-west of India in winter (accidentally wandering to South Greenland and Heligoland), is found *L. affinis*, Reinhardt, a species with dark grey mantle and yellow legs, but having a proportionately larger foot. It should be remarked that in all these species and subspecies there are niceties of distinction which cannot be detailed in a communication like the present.

“On the Pacific coast of America, from Vancouver Island to Lower California, we find the true *L. occidentalis*, Audubon, with a stout bill, large flesh-coloured legs and feet, and very dark slate-grey mantle; while the black-mantled *L. dominicanus* of the Southern Hemisphere merely calls for passing mention as an offshoot of the same group, possibly derived through *L. occidentalis*.”

The Hon. WALTER ROTHSCHILD sent for publication the following note:—

“On examining carefully two specimens in spirit, and a series of skins, of *Palmeria dolei* (Wilson), I find to my astonishment that this bird is a true member of the Drepanididæ, and not, as I at first thought, a Meliphagine bird. Its undoubted resemblance to *Moho* and *Chætoptila* is, therefore, superficial, as appears to be the case with *Drepanis pacifica*.”

Mr. ERNST HARTERT wrote:—

“As I am not able to attend the Meeting of the B. O. C., I should like to call the attention of the Club to two recent

publications in Germany which appear to be not generally known in this country.

“The first is a book of 108 pages by Dr. E. Rey, ‘Altes und Neues aus dem Haushalte des Kuckucks.’ This book may be known to many British ornithologists by name, but I have seen no comment on the surprising statement *that the old theory of the slow development of the eggs in the ovary of the Cuckoo is erroneous, and that the Cuckoo lays its eggs at much shorter intervals than is usually supposed; and, further, that it lays from seventeen to twenty-two eggs.*

“I will only add that the statements of Dr. Rey are based upon an immense mass of material, probably greater than has ever been examined by a single naturalist, and that his results are founded upon a long experience. I myself can make no comment, and I need hardly add that there are several other interesting questions treated of at length in Dr. Rey’s book.

“The second publication to which I wish to draw attention is a pamphlet of 64 pages, by Dr. Heinrich Wickmann, ‘Die Entstehung der Färbung der Vogeleier.’ It treats of the origin of the coloration of eggs. This interesting question is difficult to solve, and very little is yet known about it.

“The only positive result that has come to light from practical investigations on fresh birds with regard to the question,—‘*where in the body of the bird does the colour of the egg-shell originate,*’ seems to have been Dr. Kutter’s observation on an egg found in a female *Falco tinnunculus*. Kutter’s observations led him to believe that the colour originated in the upper part of the oviduct, and this was generally accepted, as no other theory seemed to rest on any assured basis. Now, however, Dr. Wickmann, after a period of some years’ careful studies and numerous dissections of birds, comes to the conclusion that the colour originates even earlier than in the oviduct, *i. e. in the ovary itself!*

“The pamphlet must be studied before being criticised, and I can only add that Wickmann’s deductions seem to be very clear and convincing; but I hope to find leisure-

time to investigate the matter later on, although it is extremely difficult to get the necessary material at the proper season. I consider Wickmann's pamphlet to be one of great importance."

Mr. TEGETMEIER exhibited a specimen of a curious chestnut variety of the Common Partridge (*Perdix cinerea*) killed during the past autumn in Shropshire. It closely resembled the form called on the Continent *Perdix montana*.

XXIII.—Notices of recent Ornithological Publications.

22. Andrews on a new *Æpyornis*.

[Note on a new Species of *Æpyornis* (*Æ. titan*). By C. W. Andrews, B.Sc., F.Z.S. Geol. Mag. 1894, p. 18.]

Mr. Andrews establishes *Æpyornis titan* upon two tibiotarsi of gigantic size recently received at the British Museum from S.W. Madagascar. A massive femur probably belongs to the same species. The length of the tibio-tarsus in the new species is 80 cm., the corresponding length of the same bone in *Æ. maximus* being 64 cm., and in *Æ. hildebrandti* 48.5 cm.

23. Büttikofer on two new Birds from South Celebes.

[On two new Species of Birds from South Celebes. By J. Büttikofer. Notes Leyden Mus. xv. p. 179.]

From specimens obtained in 1878 from the district of Macassar by the botanical collector Teysmann, Mr. Büttikofer describes as new *Cinnyris teysmanni* and *Dicaeum splendidum*.

24. Büttikofer on a new *Pachycephala*.

[On two new Species of *Pachycephala* from South Celebes. By J. Büttikofer. Notes Leyden Mus. xv. p. 167.]

Pachycephala teysmanni and *P. meridionalis* are new species from the district of Macassar in Celebes.

25. *Büttikofer on two new Stoparolæ.*

[On two new Species of the Genus *Stoparola* from Celebes. By J. Büttikofer. Notes Leyden Mus. xv. p. 169.]

S. septentrionalis and *S. meridionalis* are two new species from North and South Celebes respectively.

26. *Büttikofer on a new Gerygone.*

[On a new Species of the Genus *Gerygone* from Borneo. By J. Büttikofer. Notes Leyden Mus. xv. p. 174.]

Gerygone salvadorii is a new species from Borneo, hitherto confounded with *G. sulphurea* and *G. flaveola*.

27. *Büttikofer on new Birds from Java and Celebes.*

[On two new Species of Birds from Java and Celebes. By J. Büttikofer. Notes Leyden Mus. xv. p. 260.]

Mr. Büttikofer describes *Cryptolopha vordermanni* from East Java, and *Turdinus castaneus* from Celebes.

28. *Büttikofer on two new Species of Gerygone.*

[On two new Species of the Genus *Gerygone*. By J. Büttikofer. Notes Leyden Mus. xv. p. 258.]

Two new species, *Gerygone keyensis*, from Little Key Island, and *G. aruensis*, from the Aru Islands, both based on specimens collected by v. Rosenberg, are described.

29. *Dresser's Monograph of the Rollers.*

[A Monograph of the Coraciidæ, or Family of the Rollers. By H. E. Dresser, F.L.S., F.Z.S., &c. Folio. Published by the Author at Topcliffe Grange, Farnborough, R.S.O., Kent. 1893.]

Mr. Dresser's long-promised volume on the Rollers is now before us, and cannot, we think, fail to please the amateurs of illustrated ornithological monographs. The plates are all drawn by Keulemans and nicely coloured, and the paper and print leave nothing to be desired. Amongst the Rollers the author includes the anomalous Madagascarian forms *Brachypteracias*, *Atelornis*, and *Leptosomus*. In reducing the last-named type to the rank of a subfamily, we cannot agree with him—the foot-structure, the pterylosis, and the

powder-down patches alike render this course unadvisable. But the families Coraciidæ and Leptosomidæ are, no doubt, nearly allied.

Mr. Dresser recognizes 12 species of *Coracias* and 8 of *Eurystomus*. As regards *Coracias weigalli*, which Dr. Sharpe was inclined to refer to the immature plumage of *C. spatulatus*, there can be little doubt, now that a second specimen has been received from the same locality (see Canon Tristram, below, p. 320), that Mr. Dresser is right in considering it distinct. But is not the bird figured on plate v. somewhat intermediate? We are also inclined to agree with the monographer in rejecting the claims of *Eurystomus lætior* and *E. calonyx* to separation from *E. orientalis*.

30. Elliot's Monograph of the Pittidæ.

[A Monograph of the *Pittidæ*, or Family of Ant-Thrushes. By D. G. Elliot, F.R.S.E., &c. Second edition, revised and enlarged. Part II. Folio. Quaritch, 1893.]

The second part of Mr. Elliot's new edition of his 'Monograph of the *Pittidæ*' is dated December 1893, but does not appear to have been issued till January 1894. Like the preceding part, it contains a mixture of old and new plates.

We regret to see the specific term "*coronata*" of P. L. S. Müller now shifted on from *Pitta brachyura* to *P. irena*. No one has yet "dared this deed," although the possibility of it has been hinted at. We do not believe that Mr. Elliot's proposal, which would only create confusion, will be followed.

The following species are described and figured :—

<i>Eucichla ellioti</i> .	<i>Pitta coronata</i> (<i>scr. irena</i>).
<i>Pitta cærulea</i> , ♂, ♀, and	— <i>iris</i> .
young.	— <i>ussheri</i> .
<i>Anthocincla phayrei</i> .	— <i>megarhyncha</i> .
<i>Pitta rufiventris</i> .	— <i>cucullata</i> .

31. Fowler on the Marsh-Warbler.

[The Marsh-Warbler (*Acrocephalus palustris*) in Oxfordshire and Switzerland: a paper read to the Oxfordshire Natural History Society, Nov. 8, 1893. By W. Warde Fowler, M.A., M.B.O.U. Oxford, 1893. 29 pp.]

Mr. Warde Fowler now gives us a more extended account

of his adventures in search of the Marsh-Warbler in Oxfordshire and Switzerland (*cf.* 'Zoologist,' 1892, p. 303), and publishes them in a separate form with the worthy object of inducing others to make acquaintance with this interesting little bird, which, in plumage at least, is so nearly similar to the Reed-Warbler. Those who wish to see the differences exhibited in the eggs of these two allies have only to consult the splendid series of British birds' eggs in the British Gallery of the Natural History Museum, South Kensington.

32. *Hartert's Remarks on German Birds.*

[Systematische, nomenklatorische, und andere Bemerkungen über deutsche Vögel. Von Ernst Hartert. Reichenow's Ornith. Monatsb. Jahr. i. p. 165.]

Mr. Hartert has not been able to attend the meetings of the Committee appointed at the Frankfort meeting, in 1891, of the German Ornithological Society, to revise the list of names of German birds, and now gives us in print the benefit of some of his ideas on this subject. He takes Reichenow's list of 1889 (*cf.* above, p. 130) as a basis, and makes a series of critical remarks upon it. In most of these points we perfectly agree with him, whilst on others we must "agree to differ." Mr. Hartert's notes, however, should be carefully studied by all who are interested in questions of nomenclature and arrangement.

33. *Hutton on the so-called Dinornis queenslandiæ.*

[On *Dinornis* (?) *queenslandiæ*. By Capt. F. W. Hutton, F.R.S. Proc. Linn. Soc. N. S. Wales, ser. 2, viii. p. 7.]

A cast of the fossil struthious femur upon which *Dinornis queenslandiæ* was established in 1884 by Mr. C. W. De Vis has been received by the Canterbury Museum, Christchurch, N.Z., and has enabled its energetic Curator to compare it with the corresponding bones of *Dinornis*. Capt. Hutton pronounces it to be "quite distinct" from the femora of the Moa, and not to be included in any of the Dinornithine genera. After pointing out the differences which distinguish

it, he comes to the conclusion that the supposed Australian *Dinornis* should be referred to the Casuariidæ. So much for the alleged occurrence of Dinornithine forms in Australia, which has been based on this bone!

34. *Kaiser on the Birds of Sinai.*

[Zur Ornithologie der Sinaihalbinsel: Beobachtungen in den Jahren 1890 u. 1891. Von A. Kaiser. Orn. Jahrb. iii. p. 207 (1892).]

Herr Kaiser and his wife passed the autumn and winter months of 1890 and 1891 in the Wadi Bedr, in the south-west of the Sinaitic peninsula, and there made the greater number of the observations upon which the present memoir is based. Notes were also taken at Tor, on the Gulf of Suez, where 68 species of birds were recognized. The Wadi Bedr lies about 40 kil. north of Tor, at the eastern edge of the Kaa Desert, at an elevation of 1000 metres. It is a romantic valley of small area, about 4 kil. in length, traversed by a small, ever-flowing streamlet, and with a considerable amount of vegetation. Here 59 species of birds were registered during the two visits, nearly all of them European forms. During Herr Kaiser's excursions to the higher peaks of Sinai 20 species were observed, amongst which were *Carpodacus sinaiticus*, *Corvus umbrinus*, and *Gypaëtus barbatus*. Special attention appears to have been paid to the migrants, and the journal of their occurrences is given at full length. Altogether this will be found an instructive paper to students of the European Ornithology.

35. *Milne-Edwards and Grandidier on Æpyornis.*

[Observations sur les *Æpyornis* de Madagascar. Par M. A. Milne-Edwards et Alfred Grandidier. C. R. cxviii. Jan. 15, 1894.]

After a short summary of previous observations on *Dinornis*, the authors give an account of recent discoveries of fossil bones of this family at Antsirata by the late George Muller, by M. Samat at Mouroundava, and by M. Grevé on the west coast, which altogether seem to indicate the former existence in Madagascar at least of 12 species of this group, of different forms and dimensions. Anatomical characters

divide them into two sections—*Æpyornis*, with large and massive feet, and *Mullerornis* (gen. nov.), with proportionately smaller feet. *Æ. ingens*, sp. nov., was larger than *Æ. maximus*, and different from *Æ. titan*, Andrews. *Æ. cursor*, *Æ. mulleri*, and *Æ. lentus* are other new species of this section. Of *Mullerornis* three species are diagnosed as *M. betsilei*, *M. agilis*, and *M. rudis*. Amongst the Dinornithine remains (which the authors consider to have been certainly contemporaneous with Man) bones of a large Rail allied to *Aphanapteryx* and of a Hippopotamus also occur.

36. *North on the Occurrence of the Corn-Crake in Australia.*

[On a Specimen of *Crex crex*, shot at Randwick, New South Wales. By Alfred J. North, F.L.S. Records Australian Mus. ii. p. 82.]

Mr. North records the occurrence of an example of the European Corn-Crake (*Crex pratensis*) near Sydney, which is far out of its usual range, though it is stated that this wandering bird has been found in New Zealand (Dresser, B. Eur. vii. p. 295).

37. *North on a new Australian Parrakeet.*

[Description of a new Species of Parrakeet, of the Genus *Platycercus*, from North-west Australia. By Alfred J. North, F.L.S. Records Australian Mus. ii. p. 83.]

Platycercus occidentalis, a new species from N.W. Australia, is allied to *P. zonarius*.

38. *Novitates Zoologicae*.—No. I.

[*Novitates Zoologicae*. A Journal of Zoology. Edited by the Hon. Walter Rothschild, Ernst Haeckel, and Dr. K. Jordan. Vol. i., 1894. No. I.]

The first part of the new zoological journal of the Tring Museum contains four ornithological papers of much interest. Mr. Rothschild describes and figures *Turturæna sharpei*, Salvad., from E. Africa, originally based on a fragmentary specimen, and characterizes *Osmotreron everetti*, sp. nov., from

the Sulu Islands. Mr. Hartert describes a desert form of *Turtur communis* from Fao, Persian Gulf, as *Turtur turtur arenicola*, and an additional specimen of *Caprimulgus eximius* (cf. Ibis, 1892, p. 279) from Nubia. Finally, E. and Cl. Hartert give an account of the "most beautiful collection of Humming-birds that has ever reached Europe." This is the series formed by Mr. O. T. Baron, mostly in Ecuador and partly in Mexico and California. The specimens have been all mounted by the collector "from the flesh, in the most life-like positions," and are accompanied by a number of nests and eggs and Mr. Baron's field-notes. From Ecuador are examples of 86 species, amongst which four (*Chalybura intermedia*, *Eutoxeres baroni*, *Phaethornis berlepschi*, and *Eriocnemis evelinæ*) are characterized as new, and two (*Metallura atrigularis* and *M. baroni*), recently described from the same collection by Mr. Salvin, are figured. From Mexico and California there are representatives of 25 species.

39. Ogilvie-Grant on the Game Birds.

[Catalogue of the Game Birds (*Pterocletes*, *Gallinæ*, *Opisthocomi*, *Hemipodii*) in the Collection of the British Museum. By W. R. Ogilvie-Grant. London, 1893.]

The twenty-second volume of the great Catalogue of Birds is now before us, and we will make a few remarks on it as we turn over its pages. It treats of four Orders of Birds, which are easily distinguished by their osseous structure, but are no doubt nearly allied groups—the *Pterocletes*, *Gallinæ*, *Opisthocomi*, and *Hemipodii*, the mass of the species belonging to the great order *Gallinæ*. Mr. Grant recognizes 17 species of *Pterocletes*, 384 of *Gallinæ*, 1 of *Opisthocomi*, and 24 of *Hemipodii*. These 426 species are represented in the National Collection by 7021 specimens, of which 102 are types. With the exception of *Pteroclorus pyrenaicus*, which is a barely separable subspecies of *P. alchata*, the Sand-Grouse are easily distinguishable *inter se*, and present but slight difficulties. Very different is the case with the true Grouse, which we agree with the author in placing as a distinct family at the head of the *Alectoropodous Gallinæ*. Here are found

numerous geographical forms or subspecies, which it is in some cases extremely difficult to discriminate satisfactorily. In one instance Mr. Grant has taken the decided step of reuniting all the subspecies created by our American brethren for the various climatic races of the Nearctic Ptarmigan into one species—*Lagopus rupestris*. He might, perhaps, have done well to carry the same principle a little further. The generic term "*Pediocates*" is more correctly written *Pediæcetes*, as will be seen by reference to former volumes of 'The Ibis'—the derivation being *πεδίον*, a plain, and *οἰκητής*, an inhabitant. "*Pediocates*" is nonsense, and we are pleased to see that the fad of preferring precedence to sense is not insisted upon in the present work. We observe, however, that "*Bonasa*"—a term obviously taken from the European *Tetrao bonasia*—has been transferred to the American *Tetrao umbellus*, and that a different name (*Tetrastes*) is assigned to the latter. In our opinion these two closely allied species might well have been allowed to remain in the same genus.

Next to the Grouse are placed the Phasianidæ, with their 59 genera. Although we agree with the author that it is very difficult to draw the exact line between Pheasants and Partridges, we think it would have been advisable to break up this enormous multitude into subfamilies. At any rate, the Odontophorinæ, Numidinæ, and Meleagrinæ might have been set apart, and the Pheasants and Peafowl separated from the Partridges and Quails.

Concerning the difficult question of *Lophura ignita* and its allied species, we cannot quite agree with the treatment of them adopted in the Catalogue. Following Elliot (Ibis, 1878, p. 411), Mr. Grant wishes to fix the name *ignitus* of Shaw and Nodder on to the Bornean Fireback. The original plate (Nat. Misc. 321) is a wretched daub, and may have been drawn from either *Euplocamus nobilis*, Sel., or *E. ignitus* (Gm.), as discriminated in P. Z. S. 1863, p. 119. As this must ever remain a matter of opinion, we see no justification for reversing the decision already given on the point, that the name *ignitus* is best applicable to the latter. Mr. Grant consigns this last-mentioned form to a footnote, forgetting

that, besides the specimen in the British Museum, there are examples of it at Leyden. We have little doubt that the bird will eventually turn up again, and we maintain that it should be termed *ignitus*. Nor could we consent to Mr. Grant's proposal to call *Lophura vieilloti* "*L. rufa*," *Phasianus rufus* of Raffles being a very doubtful synonym.

The Peristeropodous Gallinæ, as first shown by Huxley, fall very naturally into two families—the Megapodes and Curassows. In the treatment of the latter group the compiler of the Catalogue would have done better by following the lead of his predecessors more closely. The specimens of the Salvin-Godman Collection on which their work was based are now in the British Museum. No one could have found fault if the species founded on its contents had been maintained, at any rate where no additional evidence was available. To come to an exactly contrary conclusion from the decisions of previous authorities (as in the case of *Crax erythrogna*) is not, in our opinion, a laudable exercise of private judgment. It would have been easy, and "better form," to follow the previous lead and to have expressed some doubts as to its correctness.

On the whole, however, we are by no means dissatisfied with Mr. Grant's volume, which bears many marks of care and conscientious work. We think that the descriptions are in most cases too long, and that a few more explanatory remarks after the lengthy specific characters would have added much to their usefulness. To ascertain the principal differences between two nearly allied species one has generally to turn back to the somewhat complicated key, which is often rendered still more difficult of comprehension by the insertion of female characters in the series. *Female* and *juvenile* characters are, we maintain, quite out of place in keys of species, which should be based on adult male characters only.

We also regret to see that the "*Scomber-scomber*" fad has been adopted throughout this volume, and that many well-known names are consequently changed. This practice is exactly contrary to the Stricklandian Code (see Rep. on Zool. Nomencl. 1842, p. 10), and we know not how it can be justified.

The new genera instituted in this volume are three in number, namely:—*Dactylortyx* (type, *Ortyx thoracicus*); *Rhynchortyx* (type, *Odontophorus spodiostethus*); and *Eulipoa* (type, *Megapodius wallacei*). The new species and subspecies are as follows:—*Gennæus davisoni* from Burmah, *Gennæus oatesi* from Arracan, *Ortyx atriceps* from Western Mexico, *Crax grayi* (ex loc. ign.), and *Crax panamensis* from Panama and Costa Rica. The following species are figured:—*Francolinus streptophorus*, *F. albogularis*, *F. spilolemus*, *F. uluensis*, *F. elgonensis*, *F. shelleyi*, *F. adspersus*, and *Pternistes leucoscepus*.

40. *Pycraft on the Barbs of Feathers.*

[The Interlocking of the Barbs of Feathers. By W. P. Pycraft, M.B.O.U. Nat. Science, iii. p. 197.]

In this essay Mr. Pycraft gives us a concise account of the somewhat complicated mechanism “by which the characteristic unity and elasticity of the vane of a typically perfect feather are secured.” The tale is not a new one, but it is well told and plainly illustrated. Wray’s account of the same subject (*Ibis*, 1887, p. 420) is criticised in minor details, but is admitted to be generally correct.

41. *Reichenow on the Birds of Adeliland.*

[Die Vogelfauna der Umgegend von Bismarckburg. Von Dr. Ant. Reichenow. Mittheil. aus den deutschen Schutzgebieten, vi. (1893) Heft 3.]

Bismarckburg is in the new German West-African colony of Togo, whence Dr. Büttner has sent valuable collections to Berlin. The avifauna of the coast-district of Togoland resembles that of the neighbouring Gold Coast, which is already well known to us. But the highlands of the interior and the plains stretching thence towards the Niger Valley serve to introduce a north-eastern element into the Protectorate which is not perceptible in its maritime border. Dr. Büttner’s series, which contains altogether represen-

tatives of 140 species, also embraces certain European migrants, which take up their winter-quarters here. Such are *Glareola melanoptera*, *Iynx torquilla*, *Merops apiaster*, *Muscicapa grisola*, *M. atricapilla*, *Lanius senator* (intell. *L. rufus*), *Budytes flavus*, *Anthus trivialis*, and *Pratincola rubetra*. Dr. Reichenow, in his general review of the ornis of this district, further specifies other species that will probably be found to occur there, and gives valuable hints as to the mode of preserving specimens.

42. Rhoads on *Parus hudsonicus* and its Allies.

[The Hudsonian Chickadee and its Allies, with Remarks on the Geographic Distribution of Bird Races in Boreal America. By Samuel N. Rhoads. The Auk, x. p. 321, 1893.]

Mr. Rhoads has collected and compared together a large series of specimens of the Tits of the Nearctic Region allied to *Parus hudsonicus*, and after a preliminary discussion of various points gives us an arrangement of the group, in which he recognizes five geographical forms or subspecies. Of these *P. h. ungava*, from Labrador, is newly characterized.

43. Richmond on Birds from Nicaragua and Costa Rica.

[On a Collection of Birds from Eastern Nicaragua and Rio Frio, Costa Rica, with Notes; and a Description of a supposed new Trogon. By Charles W. Richmond. Proc. U.S. Nat. Mus. xvi. p. 479.]

Mr. Richmond was resident in Eastern Nicaragua and in the adjoining district of Costa Rica from February 1892 to January 1893—at Greytown, at San Carlos on the Lake of Nicaragua, on the Rio Frio, and on the Escondido or Blewfields River. The specimens collected, together with a few well-known birds observed in life, are referred to 281 species, on which field-notes and critical observations are given. *Carpodectes nitidus* was found to be common on the Rio Frio, feeding on the fruit-trees. Most of those shot were gorged with berries. *Trogon chrysomelas* is described as a new species allied to *T. atricollis*.

44. *Ridgway on new Birds from Aldabra and the adjoining Islands.*

[Descriptions of some new Birds collected on the Islands of Aldabra and Assumption, northwest of Madagascar, by Dr. W. L. Abbott. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 597.]

Dr. W. L. Abbott, well known from his exploration of Kilimandjaro, appears to have visited also the Aldabra and Amirante groups of islands, N.W. of Madagascar. Mr. Ridgway describes the following species from specimens in his collections:—*Ixocincla madagascariensis rostrata*, *Buchanga aldabrana*, *Foudia aldabrana*, *Rougetius aldabranus*, and *Ibis abbotti* from Aldabra; *Sula abbotti* from Assumption Island; and *Turtur saturatus* from the Amirante group.

45. *Ridgway on some Costarican Birds.*

[On a small Collection of Birds from Costa Rica. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 609.]

Mr. Ridgway gives us notes on some birds submitted to his examination by the authorities of the Costarican Museum. "*Buthraupis ceruleigularis*, Cherrie," is a new Tanager of the group of *B. arcaei*. Additional specimens of *Scytalopus argentifrons*, Ridgw., are described. Altogether 10 species are commented upon.

46. *Ridgway on the Genus Myiarchus.*

[Remarks on the Avian Genus *Myiarchus*, with special reference to *M. yucatanensis*, Lawrence. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 605.]

It is truly said by Mr. Ridgway at the commencement of this essay that "the discrimination and identification of the species and geographical races of the genus *Myiarchus* are one of the most difficult tasks with which the student of Neotropical Ornithology has to deal." Mr. Ridgway now proposes to separate as new generic forms *M. magnirostris*, of the Galapagos, and *M. flammulatus*, Lawrence, and to call the former *Eribates*, and the latter *Deltarhynchus*. He also gives reasons for maintaining his former views as to the validity of *M. yucatanensis*, Lawrence.

47. *Rothschild on the Avifauna of Laysan.*

[The Avifauna of Laysan and the neighbouring Islands; with a complete History to date of the Birds of the Hawaiian Possessions. By the Hon. Walter Rothschild. London: R. H. Porter. Part II., November, 1893.]

Part II. of the 'Avifauna of Laysan' follows quickly on the first, and is hardly of inferior interest, although devoted to a better known subject. In it the author commences a review of the birds of the Hawaiian Islands proper, mainly for the purpose of introducing the many and remarkable discoveries of his collector, Henry Palmer, in this peculiar ornithology. The genera *Phæornis*, *Chasiempis*, *Hemignathus*, *Heterorhynchus*, *Viridonia*, and *Oreomyza* (all well-marked Passerine types restricted to the Hawaiian Subregion) are treated of and illustrated by beautiful coloured figures. *Phæornis palmeri*, from Kauai, is newly described, and *Heterorhynchus wilsoni*, from Hawaii, is newly named, having been wrongly referred by Mr. Wilson to *H. olivaceus* of Lafresnaye, which Mr. Rothschild considers to be the same as *H. lucidus* (Licht.).

The following species are figured:—

<i>Phæornis obscura</i> , jr.	<i>Heterorhynchus wilsoni</i> .
— <i>myiadestina</i> , jr.	— <i>hanapepe</i> .
— <i>lanaiensis</i> , jr.	— <i>affinis</i> .
<i>Chasiempis sandwichensis</i> .	<i>Viridonia sagittirostris</i> .
— <i>gayi</i> .	<i>Oreomyza maculata</i> .
— <i>slateri</i> .	— <i>newtoni</i> .
<i>Hemignathus procerus</i> .	— <i>montana</i> .
— <i>lanaiensis</i> .	— <i>flammea</i> .
— <i>obscurus</i> .	

48. *Sharpe and Wyatt on the Hirundinidæ.*

[A Monograph of the Hirundinidæ, or Family of Swallows. By R. Bowdler Sharpe, LL.D., and Claude W. Wyatt. Parts XV.-XVII., 1892-93. 4to. London: Sotheran & Co.]

The last thick double part makes a considerable advance in this somewhat protracted work, and the conclusion is promised early in the present year. The maps and tables showing the distribution of the genera and species are a

new feature in Monographs—at any rate carried to this extent—and are full of information. *Cotile diluta*, sp. nov., is the Central Asiatic form of *C. riparia*.

Part XV. (August, 1892) contains figures of *Atticora cinerea*, *Hirundo tahitica*, *H. javanica*, *Cotile rupestris*, *Tachycineta thalassinus*, and *Hirundo arcticincta*.

Parts XVI. and XVII. (December 1893) contain figures of *Chelidon urbana*, *Cotile riparia*, *Phedina brazzæ*, *Hirundo rustica* (3 plates), *H. gutturalis*, *H. tytleri*, *H. erythrogastra*, *H. emini*, *Progne purpurea*, and *P. hesperia*.

49. Stejneger on Japanese Birds.

[Notes on a third Instalment of Japanese Birds in the Science College Museum, Tokyo, Japan, with Descriptions of new Species. By Leonhard Stejneger. Proc. U.S. Nat. Mus. xvi. p. 615.]

The examination of a third instalment of birds from the Museum at Tokyo enables Dr. Stejneger to add eight new species to the Japanese Avifauna, besides giving him occasions for other interesting notes. *Æstrelata longirostris* is a new member of this genus, with an abnormally long bill. The author also describes *Accipiter pallens* as a new species allied to *A. nisus*, *Locustella hondoensis*, sp. nov., and *Emberiza ciopsis ijimæ*, subsp. nov., and records the occurrence of two specimens of *Pitta nympha* in the province of Inuba.

XXIV.—Letters, Extracts, Notices, &c.

THE following letters, addressed to the Editor, have been received:—

SIR,—In the last number of 'The Ibis' for last year is a paper entitled "Bornean Notes," by Dr. R. B. Sharpe. In section ii. of this paper (p. 551) "*Hyloterpe whiteheadi*, Poeh Mt., 4000 ft.," is an interesting addition to the avifauna of Borneo—if it is correctly named, and is not *H. hypoxantha*. In section vi., as regards *Arachnorhaphis everetti* (p. 561), Dr. Sharpe would seem to lead his readers to believe that he had never seen examples of this species

before. He must have forgotten that he had examined nearly a dozen specimens brought from Kina Balu by myself, and had misnamed them *A. modesta* (Ibis, 1889, p. 425). Dr. Sharpe should have been aware of this fact, as, at his request, I took several specimens to the Museum for inspection before he wrote his paper. In the same section (p. 561) is mentioned *Harpactes dulitensis*, Grant. That this species should occur, together with *H. oreskios*, on Kina Balu is somewhat surprising. In 'The Ibis' for 1892 (p. 440) Dr. Sharpe stated that he was satisfied that the birds brought by me from Kina Balu were *H. oreskios*. I myself fail to see any difference between the two species. Part vii., "Description of the Nest and Eggs of *Staphidia everetti*," of the "Bornean Notes," is quite superfluous: a description of the nest and eggs of this bird having appeared in this journal for 1889 (p. 281).

I am, Sir,

Yours &c.,

JOHN WHITEHEAD.

Singapore, Nov. 1893.

SIR,—In his notes on Bornean ornithology in the October number of 'The Ibis,' my friend Dr. Sharpe has stated, through an inadvertence, that the *Spilornis* upon which he founded his new *Spilornis raja*, together with the specimens which form the subject of his interesting note on the *Baza* of Borneo, were submitted to him by Mr. Edward Bartlett. The birds in question were forwarded to London for identification by me at the request of the then Curator of the Sarawak Museum, Dr. G. D. Haviland, to whom, therefore, will belong the credit of having discovered this new species of Snake-Eagle.

I am, Sir,

Yours &c.,

A. EVERETT.

Labuan, Nov. 21, 1893.

SIR,—It does not appear to have been noticed that the male of the Australian Sheldrake (*Casarca tadornoides*) has a summer and a winter dress, which, according to observa-

tions made on my living specimens, is produced by a double moult. In May the first moult takes place of all the feathers, primaries and tail-feathers included. The rich shining chestnut feathers of the breast are then replaced by dull yellowish-brown feathers, and the white neck-collar is replaced by another collar, also white, but not so clearly defined, and not nearly so pure in colour. This is the winter dress. At the end of August generally, the second moult (of the *small* feathers *only*) begins and produces the breeding-dress. The dull yellowish breast-feathers are then shed and replaced by the bright chestnut-coloured ones, whilst the shining white neck-collar is also regained. These bright feathers also seem to have a different structure from those of the winter dress, being much more silky and hairy in appearance.

As ducks of the genus *Tadorna* are generally supposed to moult only once a year, I wish to draw your attention to these facts. I have had my pair now for three years, and the double moult, as just described, has occurred quite regularly every year.

I am, Sir,

Yours &c.,

F. E. BLAAUW.

s' Graveland, Hilversum, Holland,

Dec. 1894.

SIR,—The name *Micropus* is made use of twice in the British Museum Catalogue of Birds as a valid generic name, viz., in vol. vi., 1881, p. 64, by Dr. R. B. Sharpe, for a Timeliine genus; and again in vol. xvi., 1892, p. 437, by Mr. Hartert, for the Common Swift. Both avian genera, not to speak of one of Lepidoptera, continue up to the present to bear the same name. In 'The Ibis,' 1893, for instance, Dr. Sharpe (p. 560) mentions *Micropus melanoleucus* (Eyt.) as a Bornean species of Babbler, and earlier in the same volume, pp. 97, 98, we find Dr. Shufeldt discussing the anatomy of *Micropus melanoleucus*, but this time the bird is a Swift.

As a genus of the Timeliidæ, *Micropus* was first defined in 1837 by Swainson (Classif. B. ii. p. 226). The name had

been previously employed in 1810 for a bird-genus, in 1816 for Lepidoptera, in 1831 for a fish. In Dr. Sharpe's Catalogue the name should, therefore, be supplanted by the next available synonym, *Microtarsus*, a genus founded by Eyton in 1839, with *M. melanoleucus* of Malacca as type. Whether this species is the same as *Micropus melanoleucus* (Gray), mentioned by Swainson two years earlier, *l. c.*, I have been unable to ascertain.

As a Swift, *Micropus* was carefully defined, with a figure of the head and foot, by Meyer and Wolf in 1810 (Taschenb. deutsch. Vögelk. i. p. 280). This appears to be the first occurrence of the name in zoology. In 1824 it was rejected, as Dr. Stejneger has pointed out (Auk, i. 1884, pp. 229, 230), by one of the authors of it, B. Meyer himself, on account of its being preoccupied in botany (Linn. S. N. 1766, ii. p. 580), and *Brachypus* was proposed by him in its stead, but in 1811 the genus had received the name *Cypselus* from Illiger. This name has been generally accepted, though *Micropus* was not entirely overlooked by the past generation of ornithologists, having been mentioned as a synonym by Lesson, Naumann, Bonaparte, and no doubt by many others. Dr. Stejneger has convinced a good many ornithologists that the name *Micropus* should be reinstated: we have "either to accept or reject all the names preoccupied in botany," and he finds that the actual condition of nomenclature shows that the former course would involve the lesser evil. But, by Rule 10 of the Stricklandian Code, the name *Micropus*, having been previously used for a plant-genus, is to be rejected. It is in such cases as this that we feel the want of a Code of Rules by which we could regulate nomenclature once for all up to a certain stage in the progress of zoology, be they Strickland's or anybody else's, and whether the stage selected be from Linnæus's xiith ed., 1766, to the 'Stricklandian Code,' 1842, or the century from Linnæus's xth ed., 1759, to Darwin's 'Origin of Species,' 1859, when a new era in the conception of species commenced. Unhappily, though all are interested in nomenclature, few of those who, from their high scientific position, might be

able to bring about a general understanding really labour at this unsatisfactory subject, and those who do work set up their own systems of nomenclature intended to be good for all time back to Linnæus and for the indefinite future. So long as this state of affairs lasts, *Micropus* and *Cypselus* must remain as doubtfully-valid names; one of them is correct, but nobody can presume to say which.

I am, Sir,

Yours &c.,

L. W. WIGLESWORTH.

Königl. zoologisches Museum, Dresden,

Dec. 21, 1893.

SIR,—Mr. Dresser some time ago described a Roller in my collection, which, without comparison, there being at that time no specimens in England, I had taken for *Coracias spatulata*, Trimen, as *Coracias weigalli* (Ann. & Mag. N. H. (6) vi. p. 351, 1890).

Dr. Sharpe, in Cat. B. M. vol. xvii. p. 23, summarily dismisses the species with the observation, "Notwithstanding it has the appearance of being fully adult, I believe that it is really only an immature individual."

Dr. Sharpe has never had an opportunity of comparing my bird with the immature *C. spatulata* at Berlin, therefore his conjecture is mere assumption.

Through the kindness of the Bishop of Zanzibar, I have just received a second, evidently adult, specimen, nearly similar to the former, from the same locality, *i. e.* Newala, north of the Rovuma river. I think, therefore, that there can be no doubt of the validity of Mr. Dresser's species, of which there is a very accurate figure in his monograph of the Coraciidæ. I may mention that *C. caudata* is common in the same district.

Yours &c.,

H. B. TRISTRAM.

The College, Durham,

[January 8, 1894.

SIR,—It is so long since Blyth, Sundevall, and other orni-

thologists wrote about the birds of Lower Bengal, and since Jerdon published their observations, with his own, in the 'Birds of India,' that Mr. P. W. Munn's paper in this month's 'Ibis' on the birds of the Calcutta district has almost the charm of novelty; and although Mr. Munn, so far as can be judged from his notes, is not well acquainted with the writings of his predecessors, he may fairly be congratulated on the accuracy of his observations, which are in most cases exactly the same as those previously recorded by other ornithologists. There are, however, two identifications of Mr. Munn's which are, I think, open to question. On p. 52 he records having seen (not secured) a pair of *Emberiza schœniclus* near Barrackpore. As *E. schœniclus* has never previously been noticed in India east of the Punjab, where it is an exceedingly rare visitor, it is probable that the birds seen near Barrackpore were some other Bunting, perhaps *E. fucata*. Again, on p. 62, Mr. Munn makes the startling statement that *Circus cyaneus* is "plentiful during the cold season." So far as I can learn, no one ever saw the Hen Harrier in Lower Bengal before; there is no specimen from Bengal in the Hume Collection, nor, I believe, in the Calcutta Museum; and as Mr. Munn does not mention either *Circus macrurus* (*C. swainsoni*) or *C. cineraceus*, both of which are of common occurrence in the cold season near Calcutta, I think one of these is more likely to have been the bird observed by him than *C. cyaneus*. *C. cineraceus* (Montagu's Harrier) is more often seen about marshes than *C. macrurus*, and is, I think, the species that most frequently visits the jheels of the Calcutta district.

Yours &c.,

W. T. BLANFORD.

January 30, 1894.

SIR,—When perusing your last number I came across two points which necessarily attracted my personal and special interest. First, in the Editor's remarks on the ornithological collections in several museums of my native country, a note occurs as follows, with regard to the types of Rüppell and others in the Frankfort Museum:—"It is, however,

highly questionable whether all these valuable types should be kept as mounted specimens, &c."

I am very thankful to the Editor for having mentioned this important question. When preparing the 'Catalogue of the Birds in the Senckenbergian Museum,' and arranging all the specimens according to my catalogue, I had on several occasions to notice how specimens had faded. I have more than once spoken to the authorities of the Museum (which unfortunately, according to the rules of the Society, change every second year) of the injury that all mounted birds necessarily undergo, and have recommended that a collection of skins should be made. Moreover, I have, in my catalogue and elsewhere, repeatedly offered remarks to the same effect. There were, however, no ornithologists then on the committee, and there are none now; therefore birds are continually mounted "for the sake of the public," and there is probably no hope that the valuable types will ever be reduced into skins and placed in well-protected drawers for the future use of students.

But not only in the Frankfort Museum are hundreds of valuable types exposed to the light, for, as is well known, all the older Museums of Germany contain only mounted birds. Above all, the Berlin and Bremen Museums are full of types, all mounted and more or less exposed to the light, besides being very inconvenient for scientific use. Fortunately, in Berlin at least (since Dr. Reichenow took matters in hand), types will not for the future suffer from being mounted; but should not the authorities, at least of the Berlin and Bremen Museums, consider whether it is advisable to keep so many types of birds mounted?

Moreover, it is not only in Germany that skins were, until lately, always mounted; matters are the same at Leyden and at Paris. At Paris, especially, it is really lamentable to see the most valuable types and uniques exposed to full daylight, and this even at hours when the public is not admitted to the galleries. I deeply regret to learn that there, even to this day, all types are mounted, although a good number of skins are kept in reserve, apart from the mounted collection.

If the question arises, why, in spite of our better knowledge nowadays, the authorities of museums continue to mount their birds, we must answer, I believe, that it is mostly done without any special reason, partly because it has been always done before, and partly because the curators do not consider or understand the value of type specimens.

The next point I beg to refer to touches, like the former, upon a question of principle. I refer to p. 131, where the Editor states that I am wrong in following the Americans and Dr. Reichenow in resuscitating the name of *Micropus* for the Swifts. I knew I should not obtain unanimous approbation for using the term *Micropus*, but I followed my principles, and so I shall do until I am convinced that the other way is better. One of my principles is that I—following the American Code and the Rules of Nomenclature agreed to by the German Ornithological Society, for which I fought persistently at three meetings, at Berlin (1890), at Frankfort (1891), and soon after at Budapesth—alter a generic name only if it has been previously used in zoology, but not if it has been used only in botany. Therefore I employed the name of *Micropus*, although I knew it was used in botany before. As I said, this is a question of principle, and I know that many do not agree with me, but I acted reasonably, like the Americans and the creators of the German Ornithological Society's "Rules of Nomenclature." Inconveniences and misunderstandings in scientific writings can hardly occur if my course is followed, but how enormous is the demand that ornithologists should also hunt up the botanical works and records, and have at hand all the latest botanical literature for references! Where is this possible, except at places like the British Museum?

The other reason why I should have avoided the term *Micropus*—i. e., because it had already been used in the B. M. Catalogue for a genus of Timeliidæ (or rather, as I should say, Brachypodidæ)—I can by no means submit to. *Micropus*, in vol. iv., was undoubtedly employed by mistake, because the name was dated 1837, while *Micropus* had been used for the Swifts in 1810, as I have pointed out in the

Senckenbergian Catalogue, p. 37, note 70, and others had before me.

It may seem inconvenient that the same generic name should occur twice in the same 'Catalogue of Birds,' but it is ten times better to make one mistake than two mistakes for the sake of appearances only. Besides, a work extending over a period of more than twenty years and prepared by about ten different authors cannot be expected to be entirely uniform in all its parts, for we are always learning, or at least trying to learn, and to advance in knowledge.

Lastly, I beg to call attention to the fact that Reichenow's valuable 'List of German Birds,' so fairly reviewed in the last number of 'The Ibis,' is dated 1889—that is, five years ago. Unfortunately, the author did not then follow the rules of nomenclature which Count Berlepsch and his associates laid down two years later, and which he follows now. He therefore would now alter many names which he then used. I am, however, very glad that the reviewer finds fault with Reichenow's big genus *Erithacus* (including even *Ruticilla*!). I have made remarks on this subject, in accordance with Dr. Sclater's views, in the Senckenbergian Catalogue, p. 1, and in 'Ornith. Monatsberichte,' i. p. 166, and I hope that the Editor's weighty opinion will have a good result.

I am,

Yours &c.,

E. HARTERT.

Zoological Museum, Tring,
January 29th, 1894.

SIR,—Being just now sadly in need of material in the shape of embryos for the purpose of studying the earlier stages of the pterylography of the bird's wing, I have thought of the plan of writing to 'The Ibis' in the hope that, through this channel, I shall be able to reach the sympathy of my brother ornithologists during the coming nesting-season, to the end that they may forward me such "hard-set" eggs—or fresh—as they may feel induced to sacrifice to the "cause of science."

My appetite is somewhat large, inasmuch as I shall be grateful for eggs of every description. In the case of hard-set eggs, where there is reason to fear that decomposition would set in too rapidly for safe transit, the shell may be broken and the contents plunged into methylated spirit, naphtha, or chromic acid, say 1 per cent., when they will keep indefinitely.

Fresh eggs can be artificially hatched to the required stage in the incubators here.

I shall be equally grateful for nestlings, for the purpose of studying the structure and distribution of the nestlings' down.

Knowing your great interest in this subject, I feel sure that you will not only countenance, but aid me, by giving this publicity in the pages of our Journal.

I am, yours &c.,

W. P. PYCRAFT, M.B.O.U.

Department of Comparative Anatomy,

University Museum, Oxford,

February 1st, 1894.

The Structure and Variations of the Bird's-Egg.—A most instructive addition lately made to the Bird Compartment of the Educational Series in the Great Hall of the Natural History Museum, South Kensington, will delight the eyes of ornithologists. Sir William Flower's object in preparing it is to exhibit in a small space the principal variations in structure, shape, and colour of the bird's-egg. After a careful diagrammatic drawing of a section of the bird's-egg, in order to render manifest its structure when fresh and complete, selected examples show the variations in number, form, size, texture, and colour of the external shell. Other series follow, exhibiting cases of similarity and dissimilarity of eggs in the same species and in allied genera. This "exhibit" might, and no doubt will, receive future additions to complete it, but even in its initial state is one which no one interested in oology should omit to visit. We propose in a future number to give a fuller account of this collection, as it is

arranged upon a principle which may be imitated with advantage in other museums intended for instruction.

Dates of Publication of Jardine and Selby's 'Illustrations of Ornithology.'—The determination of the dates of publication of the separate parts of this work from ordinary sources is, with one or two exceptions, impossible. I am much indebted to the courtesy of Messrs. Longmans and Co., who acted as agents for the sale of the book, and who, at my request, have kindly searched their registers and have supplied me with the dates on which they received the various parts from Messrs. Lizars (the publishers).

The collation was a matter of considerable difficulty, but the following is, I believe, a correct statement:—

				Received by Longmans.	
Part 1,	Text A-F,	Plates	1-16	Feb. 1827.	[1826*].
2,	G-L (1),		17-32	June 1827.	
3,	A-G (1),		33-50	April 1828.	
4,	H-L (2),		51-65	Nov. 1828.	
5,	M-Q,		66-81	July 1829.	
6,	A-F,		82-100	Aug. 1830.	
7,	A-D,		101-111	Dec. 1830,	end of Vol. II.
8,	A-E (1),		112-120	Oct. 1831.	
9,	A-D,	111†,	121-135	Feb. 1833.	
10,	No sign.		136-151 ‡	Dec. 1835,	end of Vol. III.
New Series.					
Part 1,		Plates	1-12	1836.	No information
2,			13-17	1837.	has been obtained
3,			18-29	1838.	about this "New
4,			30-35	1839.	Series," but every
5,			36-41	1840.	plate is dated, and
6,			42-44	1841.	the dates follow
7,			45-47	1842.	regularly year by
8,			48-53	1843.	year.

C. DAVIES SHERBORN.
(*Index Gen. et Spec. Anim.*)

Nat. Hist. Mus.,
Cromwell Road, S.W.

* See Vol. II, pl. 100.

† Damaged and delayed.

‡ 139-151 are dated 1835

An extinct Apterygine Bird in Australia.—In a memoir on the extinct birds of Queensland, recently published (Proc. L. S. N. S. W. ser. 2, vi. p. 437, 1892), Mr. C. W. De Vis has established a new genus and species (*Metapteryx bifrons*) on the distal half of a single tarso-metatarsus from the fluviatile deposits of the Darling Downs. In spite of all his preconceived opinions to the contrary, Mr. De Vis, after careful examination, has come to the conclusion that “this Australian relic represents a bird with a decided family relationship to the Apterygidæ.”

Sale of a Great Auk's Egg.—There was a considerable muster of ornithologists at Stevens's Auction-rooms on Thursday, the 22nd February last, to witness the sale of the egg of a Great Auk (*Alca impennis*). Not only was this the case on account of the fact that the eggs of this extinct bird rarely come into the market, but also because the present specimen, so to speak, was an historic egg, having been originally bought by Yarrell in France, it is said, for a few francs. After Yarrell's decease the egg was sold in 1856, in the same auction-room, for twenty guineas, to the late Mr. F. Bond. From Mr. Bond it passed into the possession of Baron Louis d'Hamonville, of Château de Manonville, by whom it has just been disposed of. It is the specimen figured in Hewitson's 'Brit. Oology' (vol. ii. pl. cxlv.). The bidding commenced at 100 guineas, went rapidly up to 200 guineas, and then gradually increased to 290 guineas. It was finally secured by Sir Vauncey Harpur-Crewe, Bt., for 300 guineas. The last Great Auk's egg that was sold at auction realized £225, and as there are only 68 eggs known to exist in Europe and America, it seems probable that their value will not diminish in future years.

The Black Crow of Somaliland.—In 'The Ibis' for 1891 (p. 628) will be found a letter from Mr. E. Cavendish Taylor, calling attention to the Black Crow of Somaliland, in the nests of which the Great Spotted Cuckoo (*Coccyzus glan-*

darius) habitually lays its eggs. Mr. Lort Phillips did not bring home specimens of this Crow*, because he thought it too common, and the exact species therefore remained uncertain, though Mr. Taylor surmised that it would turn out to be *Corvus affinis*. Mr. Taylor's conjecture is quite correct, as is proved by a skin of this bird which our excellent correspondent, Capt. Swayne, R.E., whose attention I had called to this subject, has lately forwarded to me.

Supposed new extinct Gigantic Bird in Australia.—In the 'Proceedings of the Zoological Society' for May 1893 (p. 473) will be found a preliminary account of the remarkable mass of remains of *Diprotodon* recently discovered by Prof. E. C. Stirling in the salt lagoon called "Lake Mulligan" in South Australia. A rumour has reached this country that amongst these remains have been found the jaws of a gigantic bird, said to be a foot in length. Further particulars of this wonderful discovery will be anxiously expected by ornithologists.

Mr. R. C. L. Perkins in the Sandwich Islands.—Mr. R. C. L. Perkins, the collector for the Committee for the Zoological Exploration of the Sandwich Islands, whose progress we have recorded on several occasions (*cf.* *Ibis*, 1893, p. 596), completed his exploration of Molokai in the autumn of last year, and despatched his collections to the Committee. They consist chiefly of birds, shells, and insects. Of the former there are about 125 skins, besides a few spirit specimens. Amongst them are examples of a remarkable new *Drepanis*, which was described by Prof. Newton at the meeting of the Zoological Society of London on Nov. 7th last (see *P. Z. S.* 1893, p. 690) as *D. funerea*. Mr. Perkins is at present working in the island of Lanai, the fauna of which, already greatly depauperated, is at present in process of rapid extermination, owing to an abundance of goats. Mr. Perkins will shortly proceed to Maui, but is expected to return to England in the autumn to assist in working out the materials and data that he has accumulated.

* See List of Mr. Lort Phillips's Birds, by Capt. Shelley (*Ibis*, 1885, p. 389).

THE IBIS.

SIXTH SERIES.

No. XXIII. JULY 1894.

XXV.—*Notes on the Ornithology of China.*

By F. W. STYAN, F.Z.S.

(Plate IX.)

THESE few notes on the Birds of China I have grouped according to the districts to which they refer, each of these districts having its own more or less characteristic avifauna.

I. Upper Yangtse District.

The following are some of the most interesting birds obtained by my collector in Western China during the last two years. The greater number were killed near Ichang, in Hoopch, close to the borders of Szechuen, others on the river between Ichang and Chungking (500 miles higher up), and a few at Chungking itself. The last place does not appear to be a good centre for collecting, and the results of his stay there were disappointing.

The Ichang collection contains some valuable birds, and shows very plainly the Himalo-Chinese character of the Upper Yangtse avifauna.

At Ichang the river leaves the mountains and enters what I have ventured to call the Lower Yangtse basin, and the avifauna changes as abruptly as the river itself.

TURDUS AURITUS, Verr. (Seebohm, Cat. Birds Brit. Mus. v. p. 193.)

A single specimen from Seckuen. The spots on the lower parts very large, round, and dark.

TROCHALOPTERUM ELLIOTI, Verr. (Sharpe, Cat. Birds Brit. Mus. vii. p. 370.)

Specimens from Sechuen and Ichang. East of the latter place it is never found. Our common eastern and southern species, *T. canorum*, extends, partially at least, into the western district, one skin being among the birds from Ichang.

BABAX LANCEOLATUS (Verr.). (Sharpe, Cat. B. vii. p. 352.)

Two specimens from Ichang.

POMATORHINUS GRAVIVOX, David. (Sharpe, Cat. B. vii. p. 431.)

Two from Ichang.

PARADOXORNIS GUTTATICOLLIS, Dav. (Sharpe, Cat. B. vii. p. 497.)

A single specimen from Sechuen. In South China the range of this bird extends eastward to the coast, but it is not found on the Lower Yangtse.

PRATINCOLA MAURA (Pall.). (Sharpe, Cat. B. iv. p. 188.)

Specimens from Sechuen in summer are in full breeding-plumage, and were no doubt nesting. On the Lower Yangtse I have hitherto met with them only as migrants.

OREICOLA FERREA (Hodgson). (Sharpe, Cat. B. iv. p. 266.)

Two adult males, and a nestling in spotted plumage, from Ichang.

RUTICILLA FRONTALIS (Vig.). (Seebohm, Cat. B. v. p. 349.)

A pair in autumn plumage from Sechuen.

MOTACILLA CITREOLA, Pall. (Sharpe, Cat. B. x. p. 503.)

Five males from Sechuen in summer plumage, with grey backs and black collars on the hind neck, the grey backs marked with faint but distinct wavy bars. One has a completely yellow head; another has a few slight black spots on the occiput; two others have spots on both occiput and

crown; and the fifth has the occiput almost entirely black, and a spotted crown. In all of them the under tail-coverts are white faintly edged with yellow.

YUHINA DIADEMATA, Verr. (Nouv. Arch. du Mus. v. Bull. p. 35 (1869)).

Two from Ichang.

LEIOTHRIX LUTEUS (Scop.). (Sharpe, Cat. B. vii. p. 644.)

Several from Ichang. This bird extends eastward to the coast in South China, but is not found on the Lower Yangtse.

HYPSSIPETES LEUCOCEPHALUS (Gm.). (Sharpe, Cat. B. vi. p. 41.)

Several from Ichang. The same remark applies to the range of this species, and I am surprised at not having met with it in the Lushan Hills and other wooded ranges on the lower river.

PERICROCOTUS BREVIROSTRIS (Vig.). (Sharpe, Cat. B. iv. p. 79.)

Very young birds in barred plumage, evidently bred at Ichang.

CRYPTOLOPHA AFFINIS (Hodgson). (Sharpe, Cat. B. iv. p. 398.)

C. tephrocephala, Anders. (Dav. & Oust.)

One from Sechuen.

CULICICAPA CEYLONENSIS (Swainson). (Sharpe, Cat. B. iv. p. 369.)

C. cinereocapilla, Vieill. (Dav. & Oust.)

Three from Ichang.

TERPSIPHONE INCII (Gould). (Sharpe, Cat. B. iv. p. 351.)

A brown male shot at Ichang in June has one of the two central tail-feathers white, as in the fully adult. The bird, however, is not moulting, and the white feather is old and worn. It seems, therefore, that at its last moult the bird assumed this single feather only of its complete dress.

ÆTHOPYGA DABRYI (Verr.). (Gadow, Cat. B. ix. p. 28.)

Several from Ichang.

† DICAËUM CYANONOTUM.

In 'The Ibis,' 1893, p. 470, I described, under this name, two birds from Ichang which appeared to differ from *D. ignipectus*. An examination of a long series of Indian skins of the latter shows that one or two approach very closely in the colour of the upper parts to the Ichang birds. I am hoping to obtain more specimens from Western China to prove the validity or otherwise of the species.

CARPODACUS VINACEUS, Verr. (Sharpe, Cat. B. xii. p. 387.)
Three specimens from Ichang.

EMBERIZA MELANOPS, Blyth. (Sharpe, Cat. B. xii. p. 522.)
E. spodocephala, Pall. (D. & O.), in parte.
Two males from Ichang; June.

EMBERIZA ELEGANS, Temm. (Sharpe, Cat. B. xii. p. 497.)
Two males from Ichang, evidently breeding.

PICUMNUS CHINENSIS, Hargitt, Cat. B. xviii. p. 551.
Vivia innominata, Burt. (D. & O.)

A single specimen from Sechuen. Though nowhere plentiful, this bird has a wide range, being found eastward to the coast.

EURYSTOMUS CALONYX, Sharpe, Cat. B. xvii. p. 38.
E. orientalis, L. (D. & O.)

One from Sechuen. The blue shade on the tail extends to the ends of the feathers.

CUCULUS POLIOCEPHALUS, Latham. (Shelley, Cat. B. xix. p. 255.)

One from Ichang; June.

CHALCOCOCCYX MACULATUS (Gm.). (Shelley, Cat. B. xix. p. 291.)

Chrysococcyx hodgsoni, Moore. (D. & O.)

One adult male from Ichang; June.

EUDYNAMIS HONORATA (Linn.). (Shelley, Cat. B. xix. p. 316.)

E. maculata, Gm. (D. & O.)

Specimens from Ichang and Sechuen.

ASTUR CUCULOIDES (Temm.). (Sharpe, Cat. B. i. p. 115.)

An adult male with pale lower parts and buff chest, as contrasted with the deep vinous colour of those parts in *A. soloensis*. The belly, thighs, under tail-coverts, axillaries, and under wing-coverts are not, however, pure white, but are washed with pale buff.

II. Lower Yangtse District.

The following ten species must be added to the list of birds of the Lower Yangtse basin already published in 'The Ibis' (1891, p. 316). I take this opportunity of correcting a clerical error on that page. The distance between Ichang (where the lower river begins) and Chinkiang (at the head of the delta) is 850, not 450, miles; the river runs 150 miles through the delta, making the total length of the district treated of as the Lower Yangtse Basin 1000 miles.

12 a. MONTICOLA GULARIS (Swinhoe). (Seeböhm, Cat. B. v. p. 326.)

I obtained one at Kiukiang in May, and Mr. Schmacker one at Shanghai in October. It is probable that all the Rock-Thrushes which pass through Shanghai on migration are of this species, which is more of a forest bird than *M. solitarius*. The latter is with us throughout the year on the coast and at suitable spots on the Yangtse, and if any migration takes place northwards in spring it probably follows the line of coast. I have been surprised by good observers describing birds seen in their gardens which were evidently Rock-Thrushes, and which I have heretofore presumed to be *M. solitarius*, though that species is seldom seen far from its favourite rocks. Now that *M. gularis* is proved to pass through the district I have little doubt that the birds in question were of this species.

55 a. ÆGITHALUS CONSOBRINUS, Swinhoe. (Gadow, Cat. B. viii. p. 67.)

Originally described by Swinhoe from specimens obtained at Sha-se, then found in Amoorland by Radde, and subsequently in Southern Manchuria by Mr. de La Touche. On

6th January I met with this bird on the banks of the Yangtse, about 20 miles above Chinkiang; and in February Mr. Schmacker's collector shot one near Nankin.

There is little doubt that diligent search would find it at suitable points all along the river, but whether resident or only a winter visitant remains to be proved. It is a difficult bird to obtain, on account of its small size, insignificant note, and habit of skulking among dense masses of matted reeds, with which it closely assimilates in colour.

It was my coolie's sharp eyes that first detected this Tit, and, though we both spent a long time trying to get specimens, only three were bagged. In these dense reed-beds it is almost as difficult to find a bird when killed as it is to get a shot at it at all.

102 *a*. STOPAROLA MELANOPS (Vig.). (Sharpe, Cat. B. iv. p. 438.)

One was shot at Shanghai in December, and is now in my collection. It seems to be thinly scattered over China, being commoner in the south and west. It is strange to find a rare migrant in this latitude so late in the year, but it must be borne in mind that the weather with us is always fine and often mild right up to the end of the year; and, in the case of many common migrants, stragglers may be seen at very late dates—some, in fact, being induced to stay all the winter.

136 *a*. EMBERIZA PYRRHULOIDES, Pall.

Pyrrhulorhyncha pyrrhuloides, Sharpe, Cat. B. xii. p. 475.

To Mr. Schmacker's collector is due the credit of adding this species to the list of Yangtse birds, he having shot three near Nankin in February. The sides of breast and flanks are streaked, but not very distinctly. It cannot be plentiful, for though I have looked out for it I have never met with any Buntings but the two smaller species, *E. passerina* and *E. yessoensis*. Mr. de La Touche obtained it in Southern Manchuria.

159 *a*. CYPSELUS PACIFICUS (Latham). (Hartert, Cat. B. xvi. p. 448.)

As I anticipated, this bird has turned up on migration, one having been shot at Shanghai in October 1892. The greater number probably pass along the coast and avoid Shanghai.

204 a. *HALIAETUS LEUCORYPHUS* (Pall.). (Sharpe, Cat. B. i. p. 308.)

An immature bird in my collection was killed on Sha-wei-shan in January. There is a bird in similar plumage in the Shanghai Museum.

210 a. *MICROHIERAX SINENSIS*, Sharpe, Ibis, 1875, p. 254.

This species was inadvertently omitted from the list. It has been found by Père David in Kiangsi, and by Père Heude lower down the river. I have never met with it myself, and probably it does not commonly come so far north.

280 a. *CACCABIS CHUKAR* (Gm.). (Grant, Cat. B. xxii. p. 113.)

A friend tells me that he shot a bird of this species on a rocky hill-side below Ngankin. Unfortunately I did not see it; but he described the bird accurately, and picked it out from among other Partridges when shown a number of skins. I have no doubt that it was a Chukar, but whether a *bonâ fide* wild bird or one escaped from captivity is open to question.

The bird is, however, a considerable wanderer; it is common in Shantung, and was found by Swinhoe on the Upper Yangtse, and there is no real reason why it should not exist on the lower river. Being difficult to flush, and frequenting rocky hills which most sportsmen would not think worth visiting, these birds might easily escape notice for years.

† 287 a. *RALLINA MANDARINA*, Swinhoe.

One in the Shanghai Museum was killed in the neighbourhood.

— 329 a. *TRINGA SUBMINUTA*, Midd.

Obtained at Shanghai in May.

The following supplementary remarks relate to species already noted in my list:—

MERULA HORTULORUM (Sclater). (Styan, Ibis, 1891, p. 332.)

I have since seen specimens killed in September and April.

PERICROCOTUS CANTONENSIS, Swinhoe. (Styan, Ibis, 1891, p. 347.)

Obtained at Kiukiang in April in company with *P. cinereus*.

LANIUS SPHENOCERCUS, Cab. (Styan, Ibis, 1891, p. 348.)

A typical adult, with a great deal of white on the secondaries, was killed near Nankin in February by Mr. Schmacker's collector.

EMBERIZA TRISTRAMI, Swinhoe. (Styan, Ibis, 1891, p. 354.)

Two were killed at Shanghai in October, and again this year I found the species abundant, for a few days in April, on the Lushan Hills, Kiukiang.

CERYLE GUTTATA, Vig. (Styan, Ibis, 1891, p. 483.)

In June 1892 three were shot among the Lushan Hills, Kiukiang, where they were evidently breeding. They had probably come up from the south, as *C. rudis* does annually.

PELECANUS MANILLENSIS, Gm.

P. philippensis, Briss. (Styan, Ibis, 1891, p. 491.)

I have now ascertained for certain that Pelicans are resident with us, breeding on the morasses which border the river in many places.

PORZANA PUSILLA (Pall.).

P. pygmæa, Naum. (Styan, Ibis, 1891, p. 501.)

At the time of making out my list I had not read Mr. Ogilvie Grant's remarks on this species (Ann. & Mag. Nat. Hist. ser. 6, v. p. 80), pointing out that our Eastern bird is the true *P. pusilla* of Pallas, and distinct from its Western representative.

CHARADRIUS PLACIDUS (Gray). (Styan, Ibis, 1891, p. 503.)

I obtained a pair at Kiukiang on July 1st, evidently breeding; previously I had met with them only in winter.

EURYNORHYNCHUS PYGMÆUS (Linn.). (Styan, Ibis, 1891, p. 506.)

One in the Shanghai Museum was shot at Woosung, below Shanghai, in December 1890.

PODICEPS CRISTATUS (Linn.). (Styan, Ibis, 1891, p. 509.)

In January 1893, during exceptionally severe weather, numbers of these birds were fishing among the ice-floes on the Whangpoo, 40 miles above Shanghai.

III. *Island of Formosa.*

PYCNONOTUS TAIVANUS. (Plate IX.)

P. taivanus, Styan, Ibis, 1893, p. 470.

I have now been able to compare the type and only known specimen of this species (from which the figure is taken) with its nearest allies. I have no doubt about its distinctness, and the characters already given readily distinguish it. The bird was probably obtained among the wooded mountains in the south of the island, for among the birds collected at the same time were examples of *Treron formosæ* and *Cyanops nuchalis*.

IV. *Island of Hainan.*

TOTANUS GUTTIFERUS, Nordmann.

Totanus guttiferus, Seebohm, Charadriidæ, p. 354.

T. haughtoni, Armstrong.

I omitted this interesting species from the list of birds obtained by Mr. Schmacker in Hainan, mistaking the specimens for *T. canescens*, which they much resemble. His collector killed a pair at Hoihow on February 3rd, the first that have been met with in China, though the bird must be a regular migrant along our coast.

The upper parts on these specimens are brown, with dark shaft-streaks and pale edgings to the feathers, but with no bars on the back or tertiaries as in *T. canescens*. Lower back white, with a few faint arrow-shaped marks, more distinct on the upper tail-coverts. Rectrices nearly uniform grey, tipped and edged with white, and only the faintest trace of bars. Under wing-coverts and axillaries pure white. Bill stouter than in *T. canescens*. Length from gape 2·3 and 2·4 inches, tarsus 1·8, wing 6·5 and 7.

XXVI.—*On the Chinese Species of the Genus Suthora.*

By HENRY SEEBOHM, F.Z.S.

MR. FREDERICK WILLIAM STYAN and I have made a careful examination of the large series of Chinese *Suthoræ*, which are now available for comparison, and we have arrived at the following conclusions :—

SUTHORA BULOMACHUS, Swinhoc, Ibis, 1866 (not 1863, as stated in the seventh volume of the 'Catalogue of the Birds in the British Museum,' p. 490), p. 300.

Suthora suffusa, Swinhoc, Proc. Zool. Soc. 1871, p. 372.

The examination of a considerable series of these alleged species from the valley of the Yangtse as far west as the Ichang Gorge and as far east as the head of the Delta, from Puching in the extreme north of Fokien, from Ningpo, and from the island of Formosa has convinced us that they are identical. The types of both are in my collection, that of the latter from Hoopih, Upper Yangtse, differing from the Formosan type in being paler in colour and in having the dark streaks on the throat and breast almost obsolete. A series from the Yangtse in Mr. Styan's collection appears to prove that Swinhoc's type of *Suthora suffusa* is merely a somewhat abraded example of *Suthora bulomachus*. So far as is known, the northern range of this species is bounded by the valley of the Yangtse, reaching its highest latitude at the head of the delta near Chinkiang, about 32°, and thence trending southwards along the hill-ranges to the province of Chekiang, where it reaches the coast south of Hangchow Bay. This species of *Suthora* inhabits tropical China, and has been very smartly figured by Wolf on plate ix. of 'The Ibis' for 1866.

North of the Yangtse and in the delta of that great river *S. bulomachus* is replaced by the following species, which inhabits subtropical China. It has been figured both by Gray and Gould.

SUTHORA WEBBIANA, Gray, Proc. Zool. Soc. 1852, p. 70, pl. xlix. ; Gould, 'Birds of Asia,' iii. pl. 72.

Suthora longicauda, Campbell, Ibis, 1892, p. 237.

We are unable to discover any difference between these

two alleged species. I am responsible for the error into which Mr. Campbell appears to have fallen. I carefully compared his Corean examples with a skin in my collection obtained by Swinhoe at Ningpo and labelled *Suthora webbiana*, but evidently in error. The type of *Suthora webbiana* is in the British Museum; it is labelled "North China," and it appears to be identical with examples in the British Museum from the province of Shensi in the lower valley of the Hoang Ho, with examples in my collection from Corea (the types of *Suthora longicauda*), and with examples from Peking and Shanghai in Mr. Styan's collection. There is an example in the collection of the Rev. H. Slater from Southern Manchuria, north of Newchwang, and its range may probably extend to the Ussuri valley (Taczanowski, Journ. Orn. 1876, p. 196), and even to Japan (Salvadori e Giglioli, Mem. Real. Accad. Scienze di Torino, 1888, p. 124).

It is very difficult to believe that *Suthora fulvicauda* (Campbell, Ibis, 1892, p. 237) can be a good species. The types are from Chemulpo, which is the port of Söul, only twenty-five miles from that town, whence the types of *Suthora longicauda* were obtained. It certainly looks very distinct; the tail is much shorter and much more rufous; the head and hind neck are much less rufous; the rest of the upper parts is more rufous, and the dark streaks on the throat and breast are nearly obsolete. The types were procured in August, and may possibly represent the young of the Söul species.

XXVII.—*A Contribution towards the Ornithology of West Jutland.* By ALFRED CRAWHALL CHAPMAN.

As I am not aware that any paper relating to Danish ornithology has appeared in 'The Ibis' for some years, perhaps the following notes may be acceptable. They relate to a visit made in May 1893 by my brother Abel and myself to the west coast of Denmark, with the special object of studying the marsh-breeding birds, such as the Black-tailed Godwit,

Ruff, Avocet, and others, and we were not disappointed with the results of our trip.

A glance at a map of West Jutland will show that it is broken up into fiords and marine inlets, communicating with the sluggish rivers flowing from the flat interior. In some cases the junctions of these rivers with the sea form soft marshes, rushy lagoons, and areas of shallow brackish water, more or less studded with islets and promontories overgrown with salt-grass, far removed from the ordinary haunts of man, and therefore highly suitable for the nurseries of aquatic fowl. The marshes, as distinct from the islets and salt-grass promontories, are areas of squashy moss, grass, rush, and bog-plants interwoven one with another, difficult, if not dangerous, to explore; but in most cases there are creeks of water which intersect these marshes in various directions and enable a flat-bottomed boat to be pushed about so as to give access to their interiors. Then it becomes necessary, in the search for eggs, to traverse on foot their squashy surfaces, where, at every step, the ground quakes for yards around in most unpleasant fashion and the water oozes out of the moss well over one's boot-tops. Such are the places most loved by the Black-tailed Godwit (*Limosa egocephala*), and on approaching, the wailing cry will soon be followed by the appearance of a bird high in air. That bird has left its nest perhaps a thousand yards ahead, nor will it usually return thereto until it has made itself pretty confident that the danger has disappeared. To find the nest is therefore no easy matter; indeed, after considerable experience, I may say that few birds are so cautious at their nests as Godwits, and even when the nest has, after long search, been luckily discovered, still the old birds never come within range of ordinary gunshot. The general cry of these Waders, when not distressed, may be syllabled as "tŭ-ĕĕ-tooō," often repeated, but they have a variety of cries, their distress-call being a clamorous wail, not unlike that of a Common Buzzard, though, of course, not so loud. The date of laying seems to vary considerably, for on May 10th we found our first nest, containing four very hard-set eggs, which must

have been laid about the last week in April. Then, on May 13th, we not only found a nest containing four fresh eggs, but we were also fortunate enough to discover a brood of young ones, perhaps two days old. It should be mentioned, in explanation, that we had thrice tried to find this last nest; but the bird always rose from a different part of the marsh, which led us to believe that she must have young, and it was while making, after a long watch, a final effort to find the eggs that we accidentally stumbled on the young birds in the long grass. On one occasion, after we had been lying for some time pretty well concealed, we noticed through the binoculars a Godwit walking and running towards us until it eventually disappeared quite suddenly. We thought it might have sat down on its nest, so we marked the place carefully and then stood up; the bird instantly rose about 150 yards from us, and on walking straight to the spot we were delighted to find the nest with four olive-green eggs. In another instance we observed two birds playing together in the air over a certain part of the bog in such a manner that our suspicions were sufficiently aroused to cause us to cross the quaking surface until we actually walked right on to the nest and its four eggs. The nests were mere depressions in the moss, without any special lining-material, and four is the number of eggs laid. The downy young have extraordinarily developed legs and feet in comparison with the size of the body; the beak and legs are lead-colour; the body pale yellow or fawn, with darker brownish-coloured streaks or bars; the irides black. Even when only a day or two old, these youngsters were adepts at walking amongst the roughest grass; they uttered a plaintive little call-note when trying to find each other in the grass.

By the aid of an old brown-coloured water-dog we were able to secure specimens of the parent birds, but without this dog they never came within shot. The females are much larger and longer in the bill than the males; their heads, necks, and breasts are a pale red or fawn-colour, bellies white, and backs grey, splashed a little with black and russet-coloured feathers.

While searching for Godwits' nests on May 13th, we flushed a Spotted Crake (*Porzana maruetta*) from her nest and ten eggs, situated in a dangerously soft part of the marsh. She had selected a thickish tuft of grass and flags wherein to construct a very neatly formed nest of bits of flags; the structure lacked any coherence, though as deep and cup-shaped as that of a Thrush. We never heard these birds utter a note, nor, excepting Land-Rails (*Crex pratensis*), did we happen to meet with any of the other Crakes. Pairs of Shovellers (*Spatula clypeata*) frequented these marshes, and on May 12th our dog flushed an old duck from her nest and ten fresh eggs in a very soft part of the bog. We had to lay down oars and otherwise arrange a foundation for our feet before we could reach this nest. Mallards (*Anas boscas*) were also distributed sparsely over the marshes, and we were easily able to identify a male Garganey (*Querquedula circia*), though we were unable to find the nest of the latter species. A Marsh-Harrier (*Circus aeruginosus*) was generally floating about within sight, a pleasing spectacle amongst so many aquatic fowl.

Ruffs and Reeves (*Machetes pugnax*) were very common, but on these marshes they had not commenced to lay up to May 18th; this was rather singular, as in another and different type of district hereinafter described, only 15 miles off, some nests had the full complement of four eggs on May 15th. The Ruffs, according to their well-known habit, had selected certain "hills" on which to conduct their amorous conflicts, and it was with the greatest interest that we watched these singular birds, in congregations of from 6 or 8 to 20 or 30, beating their flanks with their wings and otherwise performing the strangest antics. Often a pair of Ruffs would, with ruff and ear-tufts erect, stand facing each other for minutes together, their heads lowered and their bills nearly touching each other; then one would spring into the air and make a desperate rush at his retiring adversary, their aptitude for running over the ground at a marvellous speed being most extraordinary. Very frequently no Reeve was present during these exhibitions, and the persistency with

which the birds refuse to be driven away from their selected "hill" merits attention. Some of the actions of the Ruffs while "at play" forcibly reminded me of the gambols of an old Blackcock on a Northumbrian hill-side in the month of April. In some specimens of these Ruffs the ruffs and ear-tufts were almost pure white, in others cream-coloured, while chestnut, black, grey, purple, and mixtures of these colours were also common; indeed, the variation seems to be infinite, the breast and lower parts in some birds being alike highly coloured. In only one instance did we observe a Ruff in which the ruff and ear-tuft was so imperfectly developed as to exhibit distinct signs of immaturity, but this bird was killed amongst others developed in the highest degree. The caruncles or warty formations on the face, as well as the colour of the beak and legs, varied in individual specimens, and, as a general rule, these parts assimilated to the colour of the ruff itself; thus, in birds with ruffs cream-coloured or of a light hue, the legs and bill were of a pale pink or red, while in those with dark ruffs the legs and bill were of a distinctly deeper tinge. The caruncles, in like manner, varied from pale lemon-yellow or brown to orange and red colours.

Dunlins (*Tringa alpina*) were very common in these marshes, and it was delightful to hear their "reeling" cry, whence the Danish name of "Reuill." We found plenty of their nests, but, excepting the Redshank and Peewit, no other Waders seemed as yet to be actually breeding. We observed a pair or two of Green Sandpipers (*Helodromas ochropus*), and watched them walking or creeping about amongst the reed-stems, for in such situations we were able to approach quite near to them, but when in the open they were wild. Of Common Sandpipers (*Tringoides hypoleucus*) we noted a few, but the Wood-Sandpiper (*Totanus glareola*) was by far the most numerous. None of these Sandpipers, however, showed any signs of breeding in these wet marshes. Common Snipes (*Gallinago caelestis*) were constantly "drumming" overhead, and of the Great Snipe (*G. major*) we observed a single pair; but although the latter seemed to have located themselves for breeding purposes, we were unable to ascertain that they

were actually nesting. A few pairs of Golden Plovers (*Charadrius pluvialis*) were breeding on some dry ground adjoining the edge of the marshes, and we frequently observed a large Goose, sometimes two together, flying about in the distance.

On the lagoons, where the previous year's reed-stems shot up about a foot above the level of the water, there being a uniform level at which the winter's ice cuts off the stems, we found several nests, which probably belonged to the Great Crested Grebe (*Podiceps cristatus*), but even though we found five more or less hard-set eggs in a nest, the eggs themselves being quite warm, we never could see the bird; of course she had glided off at our approach and was probably watching us within a few yards' distance, with her beak only raised above the water-level. The nests were built of reeds, lined with leaves of water-lilies, and floating in 6 or 8 feet of water, and when completed formed bulky floating structures, anchored to some of the dead reeds aforesaid; but it is extraordinary how difficult they are to see until one approaches within a few yards of the site. At 20 yards' distance from a nest placed amongst reeds 1 foot high, and each reed about 1 foot apart, a nest is invisible to a man standing up in a punt! It is somewhat singular that although one nest contained hard-set eggs on May 12th, others on the same date were still only in process of building.

A few Coots (*Fulica atra*) frequented these lagoons, though we never saw or heard their near ally, the Waterhen. Sedge-Warblers (*Acrocephalus phragmitis*) penetrated into the very centre of the marshes, where their hissing note could generally be heard; but the Great Reed-Warbler (*Acrocephalus turdoides*) was not observed—perhaps it was waiting for a further reed-growth to take place before joining its smaller congener. Wagtails were very numerous distributed, but they had not nested up to May 20th. At the time of our visit we had no doubt that all these were our Yellow Wagtail (*Motacilla raii*), but since consulting the works of Yarrell and Saunders a doubt has arisen in our minds; still we never observed any grey head or white eye-streak, and I think if

they had been Blue-headed Wagtails (*M. flava*) we should have noticed the difference. The birds were very tame, and in many cases were paired, but, as already stated, we failed to find any nests, which could hardly have happened had they been breeding. The text-books seem to give the Yellow Wagtail a very limited geographical range, and we may have been mistaken in assuming that they were Yellow Wagtails, but, nevertheless, that they were so is still my belief. Of course it would have been the easiest thing in the world to have proved it, had we remembered at the time that any uncertainty might attach to the question. The only Hawks observed were an occasional Kestrel and Marsh Harrier; one of the latter, a dark brown bird with a white head, seemed to haunt the marshes regularly, but we were unable to find its nest. The most likely places for it, viz. cane-brakes situated on the sides of deep-water creeks, were frequented by otters, their numerous tracks and lairs in these places showing that the carp and other coarse fish inhabiting these sluggish waters could not be having the best of times. Storks (*Ciconia alba*), which had their nests on the peasants' houses at the marsh-sides, of course frequented these areas, and they could generally be seen sedately walking about or engaged in a furious conflict with some obstreperous reptile.

Black Terns (*Hydrochelidon nigra*), lovely objects in their sooty summer dress, seemed to be just arriving about May 10th, and their numbers kept increasing during the next fortnight. They had not then made any signs of nesting, and probably would not have eggs until the first week in June, by which time the water-lilies and other surface-plants would afford sufficient consistency to bear the nurseries of these swamp-loving birds. The only Gulls noted in the marshes belonged to the Black-headed *Larus ridibundus*, and even they did not appear to be paired; probably they were stragglers from some breeding-colony at another part of the coast.

The inland districts adjoining the marshes, half arable, half sterile heaths, are devoid of interesting birds; but Sky-Larks breed here in thousands, and their continual singing

becomes quite irksome. We observed also the Crested Lark (*Alauda cristata*), and on May 17th hosts of Tree-Pipits (*Anthus trivialis*) frequented these places; but the latter were only on migration, as a few days before this species was entirely absent. Golden Plovers and Ring-Dotterel were both breeding, though sparsely, on the inland heaths, and we thought we once saw a Stone-Plover. Of other inland birds, the Corn-Bunting and Reed-Bunting, Partridge, Corncrake, White Wagtail, Whinchat, Greenfinch, and Brown Linnet were observed.

On the coast, where the North-Sea breakers have piled up for miles a bank of sand and pebbles (interspersed with which at one point were the vertebrae of a stranded whale), vast numbers of Terns were preparing to nest, but up to May 17th none had eggs. It is to be regretted that we were unable satisfactorily to identify all the species, chiefly from the fact that the birds, not having commenced to lay, were rather wild and would not allow sufficiently near approach. It was, however, easy to see that both a smoky-breasted and a white-breasted Tern were very numerous, and we soon secured specimens both of the Arctic and the Common species. There were, moreover, many larger Terns, with black heads and white underparts, which seemed to us to vary in size, some being very large, and we have little doubt that the Sandwich, and probably the Gull-billed and Caspian, were present. These large Terns kept flying up the coast, northwards, generally just outside the line of breakers, and in nearly every instance they were carrying either small silvery fish or drift-weed in their bills. They flew so far northward that we could not follow them to their assumed nesting-places, and it was very strange and amusing to watch how, while flying, they constantly dropped what they were carrying, and after the fish or weed, as the case might be, had fallen perhaps twenty or thirty feet, they swooped after it, caught it, and continued their flight. It was no unusual thing to see one Tern perform this strange feat three or four times in quick succession. The pretty Little Terns (*Sterna minuta*) were also breeding here in con-

siderable numbers; they were going about in pairs, and it was very interesting to watch them; they frequently took "headers" into very shallow water within a few yards of us, and after one had dived and caught a small fish it always flew to the shore and alighted, often close to us. Its mate then invariably joined it, when the two entered into quite a little flirtation before our eyes, and then they would recommence fishing.

In addition to the Terns, the Common Ring-Plover and Lesser Ring-Plover (*Ægialitis curonica*) were breeding here, as well as the Kentish Plover (*Æ. cantiana*), and we obtained specimens of all. The last species was new to me in a wild state, and I certainly should not have recognized it so soon had not my brother, who was familiar with it in the Spanish marismas, detected it at once by its white throat. The Common Ring-Plover already had eggs; but although we watched a Kentish Plover run to her nest and sit down on it, still it contained no eggs. This nest was a mere scratching on the bare sand, slightly sheltered by some drift seaweed. Almost every hour of the day small flights of Whimbrel (*Numenius phaeopus*) were to be seen, all steadily making northwards to breed in higher latitudes. Similarly we observed Brent Geese (*Bernicla brenta*) passing at sea; Scoters, Wigeons, a few unrecognized diving Ducks, Mergansers, and Red-throated Divers were all observed at sea, while many Great Black-backed Gulls, all in brown plumage, frequented the shore.

The coast where the Terns were breeding was separated from an extensive fiord, or shallow marine area, by a very long narrow strip of sandhills and bent-grass, and at one point in the fiord a level promontory projected some four or five miles into the fiord. The whole surface of this headland was overgrown with short salt-grass, raised about a couple of feet above high-water mark, and at low tide large areas of sand and mud were laid bare, extending in some directions far beyond the shores of the promontory itself. Dotted about in the fiord, beyond the boundaries of the salt-grass spit, were sundry islets, covered with a rougher kind of sea-

grass and bordered in places with reeds. This whole area was alive with birds. We spent the 15th of May on this salt-spit and on such of the islets as we had time to explore. We commenced the day by proceeding direct to the furthest extremity of the promontory. When we had arrived there the first objects to attract our attention were eight very large white birds in the shallow water some 400 yards out in the fiord. They were sitting in close proximity to numbers of large Gulls, and several hundreds of Pink-footed Geese (*Anser brachyrhynchus*) were swimming about close to them. The white birds quite dwarfed the Geese and Gulls in size, and at first we thought they must be Swans. After watching them with our glasses for a while, we were well able to see that they had black quills; for occasionally one of them would sit up and flap its huge wings, which of course rendered the black quills distinctly visible. These birds were Pelicans, and our men knew them well enough, for they not only called them by that name but assured us plainly enough that they had "yellow breasts and crests on their heads," thus at once indicating that the birds were *Pelecanus onocrotalus*, as in *P. crispus* the head ornamentation is not so conspicuous. We were not able to ascertain whether these birds bred in the district (our men said not); but we know no reason why they should not do so, when it is borne in mind that there are immense tracts of watery wilderness in and connected with these fiords seldom frequented by human beings, and therefore available as asylums for such fowl, which at all times would be readily able to replenish at will their capacious pouches with fish. Such a sight was an unexpected pleasure, as these magnificent birds were not known by us to frequent these regions.

Distributed all over the promontory and about the islets were immense numbers of Redshanks, and the grass being so short they had difficulty in concealing their eggs with their accustomed caution; they were just beginning to lay. In like manner Reeves were breeding in considerable numbers; but they seemed to prefer the islets, where the grass was longer and rougher, and here we found most of their nests.

We were informed that the Reeves had arrived at their breeding-grounds about April 23rd, and that the Avocets (*Recurvirostra avocetta*), which also were breeding here, had arrived about a week earlier. The Terns do not arrive till May. This hearsay evidence seemed to be correct, because the Avocets had already full clutches of eggs, while in most cases the Reeves were still only laying. The Reeves were breeding on the islets and promontory, as well as in suitable places amongst the sandhills, but the Avocets appeared to confine themselves entirely to the salt-grass. The Reeves seemed to breed quite separately one from another; but it was noticeable that the Avocets had a tendency to congregate, and that they were nearly all breeding in two or three more or less confined areas of ground. The Reeve invariably chooses a tuft of long rough grass for its nest, which is deep and always well concealed, whereas the nests of the Avocets were merely such depressions as would be caused by the reposing of the bird on the grass. Four is the usual complement of eggs with both these species, but in many cases there were only three, while one Avocet's nest contained five eggs. In one instance a Redshank and Reeve had laid together in the same nest. The Avocets cannot be said to be tame at their nests; they keep circling round, uttering a pretty liquid cry, like "whick-whick," but they seldom come within shot, though, with the aid of a stalking-horse, I was able to shoot one specimen with a walking-stick gun. Besides the birds already named, Dunlins and Peewits were breeding plentifully on the salt-grass, and both Arctic and Common Terns were here just beginning to lay, although, as already stated, on the sea-coast none as yet had eggs. On the islets we found many nests of Pintail (*Dafila acuta*) and Mallard (*Anas boscas*), and Sheld-Ducks were breeding amongst the sand-links. The Pintails generally had eight or nine eggs, warmly ensconced in down, and in every case they were on the point of hatching. The old Duck, in some cases, when disturbed from her eggs, half flapped and half ran away over the ground, and in one instance so rapid and peculiar was the motion that we imagined for an instant some quadruped was trying to escape

from our very feet. The drakes were in attendance, their white-striped necks glistening in the sun as they sat on the sands a hundred yards away. Some of the Pintails' nests were placed on the barest ground, while others were concealed in beds of grass and nettles. Common Gulls (*Larus canus*) were breeding on these islands, and we found plenty of their eggs, as well as those of the Ring-Plover and Oyster-catcher; but the Lesser Black-backed Gulls did not as yet appear to have laid, though we noticed half a dozen pairs or more close at hand. We observed Willow-Wrens resting on migration, and shot one of a pair of Garden Warblers (*Sylvia hortensis*), as well as a Cerncrake, out on these desolate islands in the fiord.

On May 16th we explored some of the sandhills adjoining the fiord. We found these places were infested with adders, and it was necessary to be very cautious with regard to these venomous snakes. These sandhills were largely overgrown with heath, and in places miniature marshes, margined with bog-myrtle, heather, and tall rushes, formed suitable nesting-places for Pintail, Mallard, Teal, Reeve, Dunlin, Snipe, Redshank, Peewit, Common Ring-Dotterel, Golden Plover, and Wood-Sandpiper. All these birds were breeding, but the last defied our united efforts to find its nest. Only one bird at a time showed itself, and from its actions it was undoubtedly breeding; but, as is well known to those who have tried to find this bird's eggs, the labour is far from always crowned with success. Cuckoos, Merlins, Yellow Wagtails (? sp.), Marsh Harriers, and Sand-Martins, the latter nesting, were also observed amongst the sandhills, and we noticed the rectilineal footprints in the sand of a large Plover, in all probability the Stone-Curlew. By the river-side Little Terns were incessantly diving, and we shot Little Gulls (*Larus minutus*) on migration. We observed two pairs of the latter; they were very tame and confiding, sailing close over our heads. Strange to say, they were all immature, the wings being pale brown, except the greater coverts, which had already assumed the mature plumage. The beak was dull claret-colour, legs and feet pale red, breast a lovely pink,

eye black, and the head only showed a few black feathers on it.

My readers will, I hope, be able to gather from this condensed and imperfect description that West Jutland presents many features of interest to the ornithologist. The dreary areas of shallow brackish waters studded with islets strongly reminded my brother Abel of his experiences in the Spanish marismas; he remarked that he hardly could have believed there was so near home a wilderness so nearly akin to the marismas of Spain; and the sight of wild Pelicans, besides the myriads of other fowl, formed, on the whole, at least to us, as charming a spectacle as it has ever been our lot to witness. In conclusion, it may be added that for real kindness and extreme civility, coupled with excellent living at the cheapest possible rate, this land of the Danes is perhaps without an equal in Europe.

XXVIII.—*On a Collection arranged to illustrate the General Characters of the Eggs of Birds.* By Sir WILLIAM H. FLOWER, K.C.B., F.R.S.

AT several recent soirées at the Royal College of Surgeons and the Royal Society Mr. Edward Bidwell has exhibited selections from his large collection of birds'-eggs, arranged in series intended to furnish some information as to the general principles which appear to underlie the diversities seen in these beautiful natural objects, too rarely looked upon by collectors from any scientific point of view.

It is true that at present but little has been made out about them, and especially that they have not afforded us so much aid in the solution of that most perplexing question, the natural classification of birds, as was at one time hoped. With a view, however, of bringing together into an easily appreciable form the principal facts that are known about birds'-eggs, and with the hope that this attempt may lead to further development of the subject, I have for some time, acting upon Mr. Bidwell's idea, and with much help from him, both in

the way of suggestions and specimens, been engaged in arranging for the national Natural History Museum a more complete series than has hitherto been brought together for the purpose*.

It forms part of the educational or introductory collection placed in the Central Hall of the Museum, and bears the same relation to the great collection of eggs in the Zoological Department (the systematic arrangement of which, under Mr. Seebohm's supervision, is now on the point of completion) as the illustrations of the morphology of the limbs, beak, feathers, &c. in the same alcove of the Hall do to the general zoological series of birds in the Ornithological Gallery. It also takes its place between the series of eggs of reptiles and of mammals (represented at present only by that of *Echidna*) in the two adjoining alcoves.

The collection has been made and arranged upon the principles which have always appeared to me to be those which should regulate a public exhibition intended for educational purposes. It is, or perhaps I should say aims at being, in the oft-quoted words of Mr. Brown Goode, "a collection of instructive labels, each illustrated by a well-selected specimen."

In preparing it the first point thought of was to find out what are the propositions to be illustrated, and to reduce them to definite and very concise language, and the next to obtain the most appropriate illustrations of each. In making a collection of this kind for the first time, the two operations will to a certain extent proceed simultaneously and experimentally. A proposition which has been laid down from general and perhaps only partially accurate information may require to be modified, or may even break down altogether, when put to the severe test of actual proof by illustration. The wording of the labels must be borne out by the specimens, and the latter must for their part be the best that can be selected to demonstrate the truth of the statements made in reference to them.

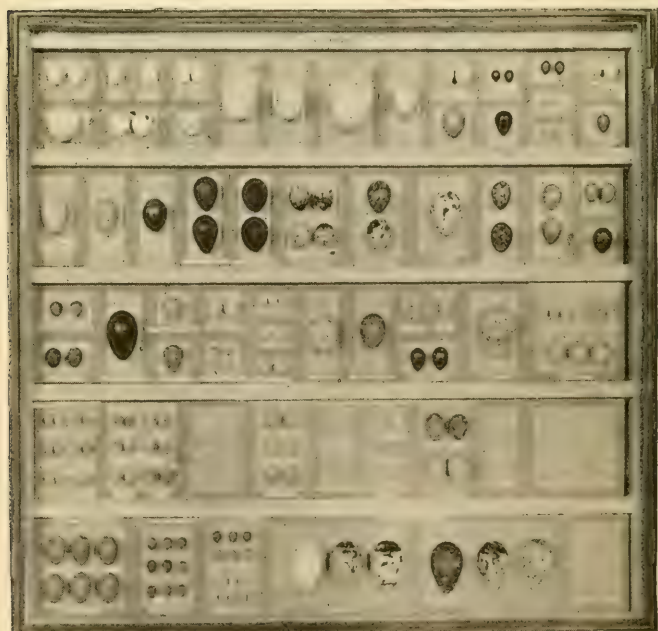
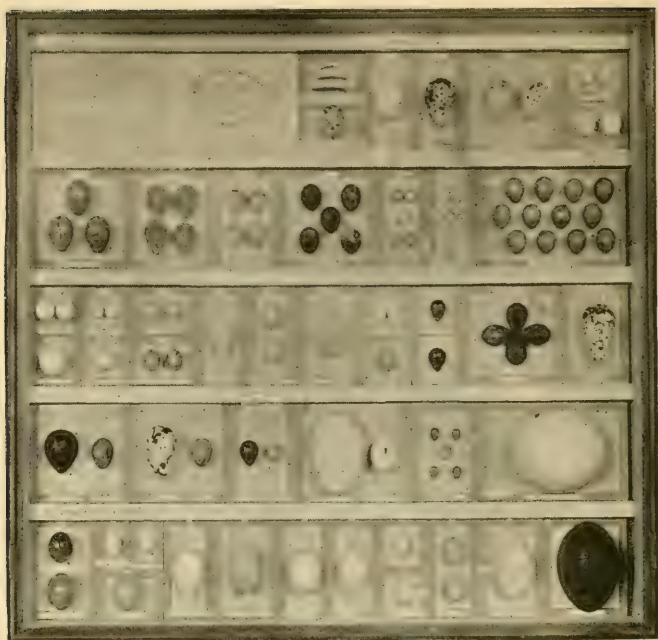
In commencing such a collection it is very necessary to form some definite idea of the extent to which it should be

* [See a previous notice on this subject, above, p. 325.—ED.]

carried out. It may be small and compact, so as to show at a glance the main facts only of the subject, or the illustrations and subdivisions may be extended almost indefinitely. In the collection which I have arranged the limitations of exhibition-space at my command had to be carefully considered, and the requirements of the ordinary museum visitor thought of, rather than those of the specialist in oology. Moreover, the very nature of the objects, especially their liability to deterioration from exposure to light, entailing the necessity of frequent renewal of many of them, gives a reason for a comparatively limited exhibition. If such a collection were made upon a large scale, it would have to be kept in drawers, and thus would lose its present great advantage of facility of access and study.

As it is possible that similar collections will be made for other museums, doubtless with improvements both in general plan and in detail, I have thought that it would be useful to give a description of this one in its present condition.

The whole collection is contained in two flat glazed cases, each about 3 feet square and 5 inches in depth (see p. 354). Each case is divided into five horizontal spaces, 6 inches from above downwards and 3 feet in length, in which the tablets to which the eggs are fastened are placed. Between each of these is a raised flat surface, 1 inch wide, upon which the principal labels, constituting the descriptive headings of the series below, are placed. The labels referring to the individual specimens are fixed on the tablet itself. The tablets are thus arranged in distinct rows divided by spaces, like the lines of a book, and follow in regular sequence from the left to the right of the spectator like the words of such a line. They are of well-seasoned 1-inch deal, and of definite size, so as exactly to fill up the space allotted to them. The majority are 6 inches in height, but some for smaller eggs only 3, one being placed above the other. In width they vary from 3 to 9 inches, care being always taken that the combined width of all the tablets in one row exactly amounts to the allotted 36 inches. Being all of definite proportions, they can be readily shifted in position as required.



Cases illustrating the General Characters of the Eggs of Birds.

The question as to the best colour of the paper to cover the tablets was a serious one, as it was considered desirable to have a uniform colour throughout, and after many experiments a pale neutral grey was found to suit the generality of specimens better than any other. Each tablet has a margin of a warmer colour, but this is merely a matter of taste. The eggs are fixed to the tablets by a very simple and most ingenious device, for a knowledge of which I am indebted to Mr. Bidwell, and without which it would have been extremely difficult to carry out the plan satisfactorily. When an egg is fastened to a flat board, as it touches at only one point, it is not easy to keep it in proper position until the cement is dry, and it is very liable to break away, with a certain amount of injury to the fragile shell. These difficulties are completely overcome by the use of common linen buttons of suitable size. The flat side of the button is fastened to the tablet, and the other side presents a concave surface in which the egg lies comfortably with a comparatively wide area of attachment, and from which, if necessary, it can be easily removed without any fear of injury. The button is detached from the tablet by passing a knife under it, and then it can be soaked off the egg by immersion for a few minutes in water. The cement which has for a great number of years been used in the Zoological Department of the Museum to fix shells upon tablets for exhibition—a mixture of gum arabic and gum tragacanth—has been found to answer very well for the eggs.

For the sake of uniformity the eggs are (except in a few instances, for special reasons) placed with their long axes vertical, the larger end upwards.

The main divisions of the series are:—(1) Structure; (2) Number; (3) Form; (4) Size; (5) Texture of surface; and (6) Colour. The first five divisions occupy the first case. The second case is entirely devoted to illustrations of the sixth division. The whole collection consists of about 280 specimens.

STRUCTURE is illustrated by a drawing of the well-known diagrammatic section of the newly-laid egg of a bird, to be

found in most text-books, with the following description (mainly condensed from Gadow) :—

The newly-laid egg of a bird consists of—

A. *The Yolk*, in the germinal disk of which (*a*) the development of the chick begins. The yolk is yellow and opaque, consists mainly of granular globules of albuminous and fatty matter, and is enclosed in the vitelline membrane (*V*).

B. *The White*, or *Albumen*, transparent and colourless, but showing a definite structure, some parts being denser and firmer than others, notably the *chalazæ* (*b*), twisted cord-like structures, which pass between the poles of the egg and the yolk, serving to keep the latter in position.

C. The thin but tough and fibrous *Shell-membrane*, consisting of two layers, which tend to separate at the broad end of the egg, and develop an air-chamber (*c*) between them. This chamber does not exist in perfectly fresh eggs, but makes its appearance and increases in size as the white of the egg loses in bulk from evaporation.

D. The *Shell*, which is the last part formed, being deposited upon the surface of the shell-membrane by the glandular walls of the uterine dilatation of the oviduct. The shell consists of an organic basis or matrix, hardened with calcareous matter (mainly calcium carbonate, with a small quantity of magnesium carbonate and calcium phosphate), and generally consists of three layers :—1, the internal or mammillary layer, the roughened projections or mammillæ of which rest upon the shell-membrane ; 2, the porous layer, constituting the chief thickness of the shell and permeated by numerous vertical canals, simple in most birds, but branched in Ratitæ (except *Apteryx*) ; 3, the thin outer or cuticular layer, apparently structureless ; either very poor in calcium salts (and in this case smooth and glossy), or considerably infiltrated with calcareous matter, and so giving the rough chalky appearance seen in some eggs. This extends over the apertures of the canals of the porous layer, but air readily passes through it when dry, though not so when moist. In the eggs of some birds this layer appears to be absent. The colour of the shell is produced by pigment deposited on it during its passage through the oviduct ; sometimes it is

confined to the surface, but it also occurs at various depths in the substance of the shell.

Then follow portions of shell of the eggs of *Æpyornis*, Ostrich, and Duck, in section, to show their relative thickness.

Next to these is placed the egg of a Tern (*Sterna cantica*), showing various shades of markings produced by the same coloured pigment, deposited either on the surface or at different depths in the substance of the shell.

NUMBER.—The eggs laid in one nest, which are sat upon together and hatched about the same time, are called a *clutch*. Their number, though tolerably uniform in each species, varies greatly in different species. Some have only one, others two, the majority of species four or five. Higher numbers are less common, but eight to twelve eggs in a clutch are frequent among Ducks and Rails, and even more among some game-birds.

The examples given are :—For single eggs, the Manx Shearwater and Razorbill ; for two eggs, the Black Guillemot, Swift, and Ring-Dove ; for three eggs, the Oyster-catcher (perhaps one of the Sand-Grouses would have been better) ; for four eggs, the Golden Plover and Common Sandpiper ; for five eggs, the Kestrel and Robin ; for higher numbers, the Long-tailed Tit, with nine, and the Red-legged Partridge, with twelve in a clutch.

FORM.—In form, eggs may vary from almost spherical to different modifications of elliptical or oval. The latter form, in which one end is smaller and more pointed than the other, though not universal, is the most frequent, and distinguishes the eggs of birds from those of reptiles. If there are many eggs in the nest it is obvious that the conical form makes close packing more easy. Where only two eggs are laid they are seldom conical. Eggs having a pyriform shape, or narrowing very rapidly towards the smaller end, are mostly those of wading birds (*Limicolæ*), which lay four in a nest, and are large in proportion to the size of the bird. Their pointed ends being turned inwards, they occupy as little space as possible, and are thus more easily covered by the brooding

parent. A conical egg placed on the ground or a ledge of rock is less liable to roll away from its place, if disturbed, than one of a spherical form.

Spheroidal eggs are illustrated by those of the Scops Owl, Tawny Owl, Green Bee-eater, and Diving Petrel (*Pelecanoides urinatrix*); the ordinary elliptical form by the Nightjar and Sand-Grouse (*Pterocles exustus*); the long ellipse by the Rough-faced Shag (*Phalacrocorax carunculatus*); the bi-conical form, or pointed at both ends, by the Slavonian Grebe; true oval by the Wild Turkey, Dipper, and Common Partridge—the last being transitional to the next form; conical or pyriform, exemplified by *Hydrophasianus chirurgus*, the Dunlin, and Lapwing, the four eggs of which are arranged with their pointed ends together, to show the way they lie in the nest; and, lastly, the elongated modification of the conical by the Guillemot.

SIZE.—The size of the egg has generally, but by no means constantly, some relation to that of the parent bird. It also depends very much upon the degree of development the young bird attains at the time of hatching. In the case of birds in which the young are hatched in a very immature and helpless state, the eggs are small relatively to the size of the parent. These birds usually build carefully-constructed nests, suitable to contain the young brood during the first period of their existence. When the young are well clothed with down, and can run and feed themselves as soon as hatched, the eggs are large. Such birds usually lay on the ground in imperfectly-formed nests.

Other circumstances seem to influence the size of the egg in some cases. Thus, the Cuckoo, which lays its eggs in the nests of birds much smaller than itself, has eggs of a size nearly corresponding to theirs, and therefore relatively the smallest of any of the class.

The statements upon this subject are illustrated by placing side by side on one tablet the eggs of the Curlew and Raven, the Guillemot and Raven, the Snipe and Blackbird, and, more striking still, one of Mantell's Apteryx (of which a fine specimen has been presented for the purpose by the Hon. Walter

Rothschild) and of the Crowned Pigeon, as examples of the differently-sized eggs of birds of nearly similar size. The egg of a Cuckoo is shown surrounded by those of the Tree-Pipit, in the nest of which it was laid.

The next label states that the smallest eggs are those of some species of Humming-bird. Of existing birds the Ostrich lays the largest eggs, but these were far exceeded in size by those of the extinct *Aepyornis* of Madagascar (of which a model is exhibited below the case, being too large to be placed within). Specimens of eggs of Humming-bird and Ostrich follow.

TEXTURE OF SURFACE.—The surface of the shell of the eggs of different birds varies much in texture. It may be (A) extremely smooth and polished; (B) smooth and glossy; (C) dull and chalky, or even (D) covered with a distinct calcareous film, sometimes of considerable and irregular thickness; (E) the surface may be distinctly granulated or pitted.

Examples of A are given in the wonderfully polished eggs of the Rufous and Chilian Tinamou; of B in those of the Kingfisher and Great Black Woodpecker; of C in the White-headed Ibis, Megapode, and the very rough egg of the White-headed Duck (*Erismatura leucocephala*). Section D is represented by eggs of the Chatham-Island Shag (*Phalacrocorax featherstoni*), the Guira, the Ani, the Slavonian Grebe, and the Rosy Flamingo. In the three last-named a portion of the outer chalky crust has been removed to show the hard, and sometimes coloured, shell below. For E the egg of an Emu is selected.

COLOUR.—The colour of the egg has no relation to that of the parent bird. White is probably the primitive colour of birds'-eggs, as it is that of the eggs of all reptiles. The eggs of birds laid in holes, either in the earth or trees, entirely concealed from the light, are mostly white. The larger number of eggs are variously coloured by the deposition of pigment on or near the outer surface of the shell. The colour may be uniform throughout the surface of the shell, or it may be in irregular washes, blotches, more or less circular spots, or lines, upon either a white or uniformly coloured ground.

The series of illustrations begins with the purely white eggs of the Snowy Owl, Virginian Colin, Grey Parrot, Bee-eater, Roller, Woodpecker, Wryneck, White Stork and Black Stork, and Swan. Then follow examples of various uniformly-coloured eggs without spots or markings, viz. those of the Wild Duck, Grey Francolin, Pheasant, Cetti's Warbler, Pheasant-tailed Jacana, Nightingale, Redstart, Pied Flycatcher, *Garrulax albogularis*, Heron, and Glossy Ibis; slightly-clouded eggs, as that of the Little Bustard, passing through the Black-tailed Godwit to the blotched form represented by the Sparrow-Hawk, Razorbill, Sandwich Tern, Red Grouse, and Ptarmigan. Next follow speckled eggs, as those of the Red-legged Partridge, Jay, and Carrion Crow. These pass into the truly spotted through the Hemipodes and Pratincole. The spotted eggs, as those of the Black-throated Diver, Redshank, Golden Oriole, Song-Thrush, and Great Tit, gradually pass (through such forms as the Swift Tern and Oyster-catcher) into those covered with distinct linear markings, exemplified by *Quiscalus major*, *Agelaius phoeniceus*, *Parra indica*, and one of the varieties of the Guillemot.

Examples of exceptions to the general statement that the eggs of birds which build in holes are mostly uncoloured are afforded by the Nuthatch, Tree-creeper, and Jackdaw.

The signification of the various modes of coloration is very little understood at present. It often happens that the different species of a natural group of birds present a general similarity in the style of coloration of their eggs, or, in other words, that nearly allied birds have similar eggs; but the exceptions to this rule are very numerous. In certain cases there is evidently an adaptation of the colour of the eggs to their natural surroundings for the purpose of concealment. Excellent examples of this may be seen in the groups illustrating the nesting-habits of British birds in the Bird Gallery.

To illustrate the similarity of eggs of a natural group of birds, those of six species of *Emberiza* are placed on one tablet, and those of six species of *Hypolais* upon another. For dissimilarity of eggs in closely-allied species, the eggs

of the Missel-Thrush, Song-Thrush, and Blackbird are placed together, followed by those of the Pied, Spotted, and Red-breasted Flycatcher, the Common and Black Redstart, and of two species of *Corvus* (*C. frugilegus* and *C. capensis*).

Though the greater number of species of birds lay eggs all of which are of tolerably uniform character, varying only within narrow limits, there are some cases in which the eggs laid by individuals of the same species present a remarkable diversity.

The examples at present shown of dissimilar eggs belonging to one species are those of the Tree-Pipit, Tree-Sparrow, Fan-tailed Warbler (*Cisticola cisticola*), and Guillemot. Of the last-named six beautiful specimens have been selected from the magnificent series lately presented to the Museum by Mr. Seebohm, part of which is exhibited in the cabinet of eggs in the British Gallery and part in the reserve collection in the Bird Room. With these the series is concluded.

XXIX.—On cases of Complete Fibulæ in existing Birds.

By Dr. R. W. SHUFELDT, C.M.Z.S.

At the time Sir Richard Owen published his 'Comparative Anatomy and Physiology of Vertebrates' in 1866, he was not aware that the fibula in the legs of birds ever reached the tarsus, and in giving a general definition for that bone in the class Aves he wrote:—"The *fibula* is a styliform bone ending in a point below at various distances down the tibia in different birds" (vol. ii. p. 79). This statement is the more remarkable from the fact that that eminent authority, on the opposite page (p. 78) of the work just quoted, figures the pelvis and bones of the leg of a Loon (*Colymbus*), and, as we shall presently see, the fibula in that species is generally complete in the adult.

In 1872 Professor Huxley entertained the same view as the one I have just cited from Owen, and in 'The Anatomy of Vertebrated Animals,' which he published in that year, this distinguished biologist states:—"The fibula of birds is

always imperfect, ending in a mere style below. Generally it is decidedly shorter than the tibia, but it has the same length as that bone in some Penguins" (*op. cit.* p. 252).

Sixteen years afterwards Fleming, in his translation of 'The Comparative Anatomy of the Domesticated Animals' of Chaveau, gives a general account of the skeleton in birds, wherein he observes:—"The fibula articulates by its head with the external condyle of the femur, and is consolidated with the tibia; it never descends to the inferior extremity of that bone" (1884: p. 118). Here an additional error is entered, for the fibula in birds, as a general rule, does not "consolidate with the tibia." Just at this moment I fail to recall a case where it does so in that Class; at least, at its articulation.

Between these two last-given years, or in 1877, we find Professor Mivart, in his 'Lessons in Elementary Anatomy,' apparently entertaining the same preconceived opinion, and on page 202 of that work he says:—"In its reduced state the fibula may be quite styliform, as in Birds; or it may be developed inferiorly, but atrophied at its upper end, as in Bats."

Dr. Coues, in his 'Key to North-American Birds' (1844), wrote:—"The fibula is smaller [than the tibia], and (with rare exceptions, as in some of the Penguins, only runs part way down the outside of the tibia as a slender pointed spike, close pressed against, or even partly fused with, the shaft of the tibia" (*op. cit.* p. 119).

In 1883, my friend Dr. J. L. Wortman, who in that year was engaged upon the osteology of *Pandion*, having had all the drawings made for his memoir on the subject, called my attention to the complete fibula in that very interesting genus. This was also done independently by Mr. Robert Ridgway, of the U. S. National Museum, who had probably become aware of the fact several years before while engaged upon his well-known work upon the *Accipitres*.

Two years after this Dr. G. Baur stated that "the only known bird with a complete fibula is the Jurassic Archæopteryx (*Marsh, Dames*). The fibula of all birds is complete

during the early life of the embryo. I find in an adult *Pandion carolinensis* of Prof. O. C. Marsh's collection an entire fibula, but with the distal end of it not in front of the tibia, as in *Archæopteryx* (Marsh) " ('Science,' 1885, no. 118, p. 375). In the same journal, under the title of "A Complete Fibula in an Adult living Carinate Bird," the present writer took occasion to point out to Dr. Baur in an early succeeding issue (no. 125, p. 516) that *Pandion* is not the only bird that enjoys the possession of a complete fibula, for that bone is complete also in the leg of the adult *Colymbus septentrionalis*, and a figure of the skeleton of the right thigh and leg of that species was there given to demonstrate the fact.

In a few instances, anatomists, after the publication of these notes by Dr. Baur and myself, appeared to avail themselves of the information afforded to them, and we find that Dr. John Bland Sutton, F.R.C.S., in his excellent work upon 'Ligaments, their Nature and Morphology,' states that "the fibula of birds is usually imperfect, and presents itself as a slender osseous rod attached to the outer side of the tibio-tarsus." Mark, he says "usually," and the Doctor completes his definition by adding, "Its proximal end articulates with the outer condyle of the femur, being received in the fibular fossa; the distal end gradually thins and fuses with the tibio-tarsus. Although, as a rule, the fibula is shorter in the adult bird than the tibia, yet it may be of the same length, as in some of the Penguins" (*op. cit.* p. 50, 1887).

In one specimen of the extinct *Ichthyornis*, Marsh found the fibula to be "a slender rod, moderately thickened above, and tapering to a point at the distal end, where its attachment to the tibia appears to have been as slight as in any living bird" ('Odontornithes,' 1884, p. 174). This would seem to imply that Professor Marsh held, at the time he wrote his great work just cited, that there were no existing birds with complete fibulæ.

Claus and Sedgwick were quite positive about it when the 'Elementary Text-Book of Zoology' appeared in 1885; for, in speaking of the skeleton of the limbs in Aves, on p. 237

of that useful work, those authors say :—"The crus, which is much longer and more extensive [than the femur], is chiefly composed of the *tibia*, the *fibula* being quite rudimentary and represented by a styliform bone on the outer side of the tibia." So much, then, for many authorities prior to 1890, as well as before and after the fact had been published in 1885 by Dr. Baur and myself that there were existing carinate birds with complete fibulæ. Subsequent to 1890, or even at the present time, the opinions of anatomists still appear to be conflicting with regard to this interesting point in the structure of birds. Even so careful and observant a morphologist as my friend Dr. Hans Gadow, in Newton's 'Dictionary of Birds,' not yet entirely through the press (1893), gives the definition for the avian fibula in part I. of that work as "the bone on the outer side of the TIBIA, thick at its proximal end, but very slender and pointed towards the ankle-joint, which, however, is never normally reached, the distal portion of the fibula being already deficient in the embryo" (*op. cit.* p. 249).

With this before us, I shall now proceed to give a few examples of the leg-bones of birds, wherein we not only find a complete fibula, but wherein it does normally reach the ankle-joint. *Pandion* and *Colymbus* have already been sufficiently dwelt upon elsewhere, and in concluding this article it gives me pleasure to call attention to the leg-bones as they are found in another avian group. I refer to the *Steganopodes*.

In the Snake-bird (*Plotus anhinga*), for example, the fibula is not only thoroughly ossified, but also complete, and reaches quite down to the tarsal epiphysis of the tibio-tarsus. Its extreme distal end is the only part that fuses with the tibio-tarsus, and it appears to slightly overlap the tarsal element co-ossified at its extremity. To satisfy any doubt upon this latter point, however, embryo birds of this species must be examined. This, up to the present time, I have not done. My drawing (fig. 1) shows the leg-bones of the Snake-bird so well that further explanation seems to be unnecessary. It will be as well to add, however, that although

formed throughout in true bone, the fibula in *Plotus anhinga* is extremely slender for its lower fourth.

In an article entitled "Remarks upon the Osteology of *Phalacrocorax bicristatus*," I have already invited attention

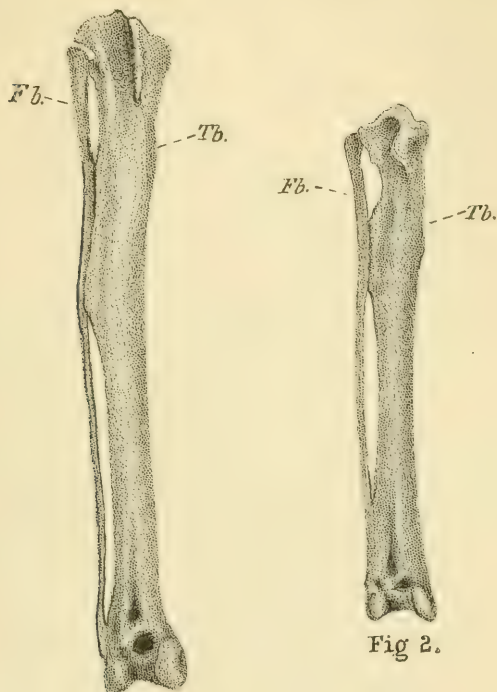


Fig 1

Fig 2.

Fig. 1. Right tibio-tarsus and fibula of *Plotus anhinga*, seen upon their anterior aspect. Drawn of the natural size from the specimen by the author. (Coll. U.S. Nat. Museum, No. 18259.)

Fig. 2. The corresponding bones as found in a skeleton of *Sula piscator*; same aspect, and also drawn of the natural size by the author from the specimen in Coll. U.S. Nat. Museum, No. 18739. The fibula in both figures is marked *Fb.*, and the tibio-tarsus *Tb.*

to the condition of the leg-bone we now have under consideration, in the following words:—"The fibula is carried unusually far down the side of its companion bone to within

1.5 centimetre of the lower periphery of the outer tibial condyle" ('Science,' vol. ii. no. 41, p. 642). Upon examining other skeletons of this species I find that it often comes much nearer than this to being quite complete, and I doubt not but what examples, sooner or later, will be found of this Cormorant wherein the fibulæ ossify for their entire lengths.

In *Sula piscator* (see fig. 2, p. 365) the fibula is also apparently complete; but in the adult the fact is quite marked, due to the very thorough fusion which takes place between it and the tibio-tarsus at its lower fourth. Still, in most specimens of this Gannet it can be distinctly traced, the distal fibular end being made evident by the existence of a slight enlargement seen immediately above the distal tibial epiphysis. No fusion of the articulations of the fibula with the other leg-bone takes place above this point. In *Sula cyanops* a similar condition exists as in *S. piscator*, and the fibula can even be more distinctly traced for its entire length. The case is better still in the Common Gannet (*S. bassana*), where the distal end of the fibula reaches down to the sutural trace of the union of the tibia with the co-ossified tarsal element. This is also the case in *Sula gossi* and other species of Gannets which I have examined in regard to this point.

In *Fregata aquila* the fibula is also complete, and in some specimens only its extreme distal end fuses with the tibio-tarsus; and it also reaches down to the tarsal element. Among the *Steganopodes* departures are seen from this condition of affairs, both in *Pelecanus* and in *Phaëthon* (two species). In these genera, apparently, the fibula is never complete, especially in the latter genus. In *Pelecanus fuscus* it is entirely free from the tibio-tarsus and much shorter than that bone; in *Phaëthon* it fuses with it at a point about halfway down its shaft.

XXX.—*List of Birds observed in Dras and Suru.* By Licut. W. WILFRID CORDEAUX, M.B.O.U. (Queen's Bays).

THE following notes were made during a journey I took, from June to September 1893, through the Scinde Valley, Kashmir, Suru, and the Wurdwan.

I left Srinagar, accompanied by my wife, on the 25th of June, and went by boat over the Dal Lake as far as Ganderbal, where the Scinde River flows into the lake. It was curious to notice the change in the colour of the water in the lake, when halfway across, from clear to dirty grey-white. The temperature also fell from 65° to 45°; this was owing to the icy waters of the Scinde River, which rises in the Zogi-la.

On the 28th, after three days' march up the Scinde River, through magnificent pine-forests, we arrived at the beautiful upland valley of Sona-Marg, which is literally the Golden Meadow. It quite deserves the name, as it is a mass of flowers. On the 29th we arrived at Baltal, and next morning crossed the Zogi-la, the first great pass on the way to Leh. At Metayan, the first Ladakh village on the other side, you find the people are Mongols, with flat Tartar faces. Here we met with the first Magpies, *Pica rustica*. On the 1st of July we arrived at Dras, where there is a fort and small serai; from here we crossed the Umba-la Pass to Sonko, on the Kartse River, and from thence went up the Kartse to Suru. Here failing to get any sport, we marched towards the Wurdwan, and crossed into that valley by the Bhut-kol Pass, 14,300 feet. On the Kashmir side of the pass is Kainthal, a valley of the Wurdwan, where I found several specimens of *Ibidorhynchus struthersi*.

In the Wurdwan we stopped two months, and then came back to Islamabad, by way of the Margan Pass, 11,300 feet.

The footnotes marked J. C. are by my father, Mr. John Cordeaux.

1. GYPS FULVUS.

A large colony of these birds inhabit the sheer precipices and cliffs that guard the steep ascent from Baltal, at the

foot of the Zogi-la. The road goes straight up from the camping-ground at Baltal to the top of the pass, and rises from 9000 to 11,000 feet in a mile. Many skeletons of ponies and yaks lie in the ravine, above which winds the steep and treacherous road. As we went up a caravan was coming down: one pony lost his footing and shot down the precipitous slope in a cloud of dust and avalanche of small stones; he had hardly touched the bottom before several of these huge birds swooped down and began to tear at the carcass. I am glad to say he was quite dead, as with the glass I saw him lying a shapeless mass on the rocks.

2. GYPÆTUS BARBATUS.

Common in Kashmir and the surrounding valleys, but I did not observe the bird in Suru or Ladakh. In the Wurdwan, at Sokniss, a fine old bird of this species acted as scavenger to our camp.

3. TINNUNCULUS CENCHRIS.

Common in the Wurdwan and Kashmir from about 6000 to 9000 feet. Preys chiefly on small voles and field-mice, with which the mountain meadows swarm.

4. PANDION HALIAËTUS.

I noticed one on the Jhelum, near Srinagar. I remember seeing a pair in the same place in 1888.

5. POLIOAËTUS ICHTHYAËTUS.

Common on the Wular and Jhelum as far up as Islamabad. Adams does not mention this bird, but says that he observed *Haliaëtus fulviventer*. From my own observations all the specimens I saw, and I have been frequently within twenty yards, were conspicuous for their grey heads, in some old birds nearly white, all the feathers centred with dusky shafts. I cannot help thinking that Adams must have been mistaken. I have seen these birds sitting on the low clay cliffs of the Jhelum with their wings and tails spread out to dry, like Cormorants.

6. SYRNIUM NIVICOLA.

This fine Owl is fairly common in the Wurdwan and the

other thickly wooded valleys of Kashmir, and ranges up to 10,000 feet, where it frequents the ancient birch-forests. It is by no means a shy bird.

7. CORACIAS GARRULUS.

This is the commonest Roller in the valley. Compared with *C. indicus* it is not nearly so bright in appearance. Great numbers breed in holes in the high clay banks of the Jhelum towards Islamabad.

8. CERYLE RUDIS.

Common up to 6000 feet. I did not observe the large Pied Kingfisher, *C. guttata*. This bird hovers like a Kestrel over the water, and when it stoops on a fish it goes straight with closed wings and tremendous velocity, disappearing right under water for several seconds. The plunge is exactly like that of a Gannet.

9. IYNX TORQUILLA.

I observed two kinds of Wryneck—one in the valley near Srinagar, very distinctly marked with white and yellow, corresponding to one shot in 1888, and now at Cambridge; the other observed in the Wurdwan at about 9000 feet, a darker reddish-coloured bird, and usually occurring among the thick balsam-jungles, up the stems of which I have seen them creeping. This may have been *Iynx indica*.

10. CUCULUS CANORUS.

Common in Suru and Wurdwan. I heard one at Minimarg, about the centre of the Zogi-la.

11. UPUPA EPOPS.

Common in the Wurdwan.

12. CINCLUS ASIATICUS (?).

Of this species I got an example, an immature female, at Bosman, in the Wurdwan. Colour a dusky brown, with bluish-grey spots. I sent the skin to Professor Newton at Cambridge*.

* [From an examination of the skins of Dippers in the British Museum, I came to the conclusion that this was *C. asiaticus*. My son now writes

The White-breasted Dipper (*C. cashmiriensis*) is common up the Scinde Valley.

13. *RUTICILLA FULIGINOSA*.

This bird is common on all the mountain-streams up to about 10,000 feet. The young in the first year are coloured like the female. So different are the two sexes that one would almost think they were of different species. A pair brought off a brood in a stream near my tent, the dark male bird looking strange and out of place amongst his light-coloured progeny.

14. *CYANECULA SUECICA*.

I took a nest of this bird on the marsh at Doonara, near the great Suru glacier, height about 11,500 feet. The nest was placed on the ground beneath a low bush, and strongly made of grass, twigs, and moss, lined with horsehair; eggs four, hedge-sparrow blue*.

15. *PHYLLOSCOPUS*, sp. inc.

Took the nest and shot the female near Souko; am somewhat doubtful as to the identity of this bird†.

16. *BUDYTES CITREOLA*.

I found a nest with young in a marsh at Doonara on July 12th. My wife and I watched the old birds feeding the young for some time. The nest was made in a depression of the ground, quite in the open. Young birds lark-olive-green, with greenish-yellow spots, distributed similarly to those on a young Robin.

17. *PICA RUSTICA*.

I saw a pair at Metayan, the first village on the Ladakh side

that he is doubtful as to the identity, and Mr. Dresser, who has seen the skin, says, "I believe it to be the young of the bird I showed you, which the Russians miscall *C. sordidus*, but not having a young example of that species, I cannot be quite certain."—J. C.]

* [There must be some mistake here, for the eggs sent home are certainly not those of *C. suecica*. The skin sent at the same time was, however, that of a fine male of this species.—J. C.]

† [This specimen was sent in spirit to Professor Newton for identification, but was unfortunately lost in transit.—J. C.]

of the Zogi-la; elevation 11,000 feet. After that it is common, no village being without three or four pairs of Magpies about it.

Mr. Oates (Faun. Brit. Ind., Birds, vol. i. p. 24) says the Magpie is common in Kashmir at about 5000 feet. Personally I have never seen it in the valley itself, which, I think, is curious, considering it is a woodland bird at home, whereas here it prefers the almost treeless country of Ladakh to the well-wooded valleys and hills of Kashmir. I have crossed the Zogi-la three times, and always expect to see Magpies at Metayan. Beyond this place they never penetrate further up the pass, which in summer is merely a long grassy valley, with a few banks of snow left here and there. Adams, in his 'Wanderings of a Naturalist in India,' also remarks on the Magpie never occurring in Kashmir itself, but confining itself "to the bleak and sterile region of Ladakh." I noticed a pair on the Suru side of Bhut-kol pass (14,370 feet), but none were seen by us in Kainthal, on the Wurdwan side of the pass. Of course, if Mr. Oates includes Ladakh and Suru in Kashmir, then his statement is correct. Personally, when referring to Kashmir, I mean the country bounded on the south by the Pir Panjal and Kaj-Nag ranges, and on the north by the great ranges which contain the Gorais, Sona-Marg, Lidar, and Wurdwan valleys, from which passes lead into Astor, Skardu, Ladakh, and Suru. So far as I know, *P. rustica* never occurs south of the high ranges that separate the pine-clad hills and valleys of Kashmir from the treeless hills of Ladakh. Plenty of willows and poplars of good-sized growth occur round all the Ladakh villages, and it is here the Magpie is met with; unlike his English brother, he prefers the abodes of man, and is as tame and cheeky as an Indian Crow. I have found the nest in willow and poplar trees, about six feet from the ground.

18. CORVUS FRUGILEGUS.

I did not observe any Rooks in Kashmir, though this species is common at Rawal Pindi, arriving about the end of October—old and young coming together. Thousands roost

every night in the park. I have seen them as far east as Sialkote.

19. *NUCIFRAGA HEMISPILA*.

I saw several Nutcrackers in the Wurdwan Valley and shot one, a female, at Bosman, in the Wurdwan. This time I did not observe *N. multipunctata*, though in 1888 I got an example, now in the Cambridge Museum, from the Nowboog Valley.

20. *PYRRHOCORAX ALPINUS*.

Common from 7000 to 14,000 feet. Occurs in small flocks at Sokniss; two pairs were always round my camp on the look-out for scraps, which they shared with a Bearded Vulture.

21. *LOPHOPHANES MELANOLOPHUS*.

Very common, frequenting the pine-woods in large flocks.

22. *CERCOMELA MELANURA* (?).

When out after bear in the Wurdwan I noticed a bird which corresponded exactly with Jerdon's description of Sir A. Burne's specimen. Unfortunately I had only a rifle with me, so could not procure it.

23. *EMBERIZA CIA*.

Very common up to 11,000 feet.

24. *CARPODACUS ERYTHRINUS*.

Very common up to 13,000 feet. I found nest with young in July made of grass, and lined with hair, cup-shaped.

25. *CARDUELIS CANICEPS*.

Common in the Wurdwan and Kashmir, extending to Suru. In August they collect in large flocks to feed on the thistles. There was a flock of about twenty close to my camp at Suedrammon nearly every day. I have observed this bird in flocks during the winter at Rawal Pindi, and a pair were constantly in my garden during the very cold season of 1890-91.

26. *METOPONIA PUSILLA*.

Common in the Wurdwan, where it breeds, but I failed to find the nest.

27. *MONTIFRINGILLA ADAMSI*.

Common in Ladakh and Suru, also in the Wurdwan. I did not find this bird lower than 11,000 feet.

28. *PYCNORAMPHUS ICTEROIDES*.

Observed a pair of this beautiful Grosbeak in the Wurdwan, high up among the pine-forests.

This bird was shot by me in 1888 at Murree, where, year after year, a flock would always be found near the same spot. Since this I have never observed it there.

29. *OTOCORYS LONGIROSTRIS*.

Common in Ladakh and Suru, but does not occur below 12,000 feet. Breeds during May and June, but I was unable to find the nest.

30. *COLUMBA INTERMEDIA*.

Common all over Kashmir and Ladakh; shot one at Minimarg, the middle of the Zogi-la, at about 11,300 feet.

31. *COLUMBA RUPESTRIS*.

I noticed a few at Dras, and shot one on the Kartse River July 11th. They seem fairly common, and occur in pairs. I have sent the skin to Professor Newton.

32. *COLUMBA LEUCONOTA*.

Common from 11,000 feet and upwards in Kashmir and Ladakh. I found it breeding among the inaccessible crags of the Ai nullah in August.

33. *ÆGIALITIS GEOFFROYI* (?)

I noticed a Plover which corresponded to Jerdon's description of *Æ. geoffroyi*, but was unable to get near enough for a shot, as the bird was feeding on a sandbank in the river which flows from the Suru glacier.

34. *IBIDORHYNCHUS STRUTHERSI*.

I first observed this bird near the little fort of Suru. I did not meet with it again till I had crossed the Blut-kol glacier

into Kainthal, when I saw three pairs near the Moskol nullah, where the river widens and is broken up by sandbanks into five or six streams.

On a marshy island across the river, covered with low shrubs, I am nearly certain they were breeding, as they kept flying backwards and forwards to it. I was unable to cross, as the stream was very swift and deep, besides being intensely cold. I shot a specimen which I just managed to retrieve before the river swept it away. It corresponded in every particular with Jerdon's description, except that the legs of my specimen were greenish grey*. After it had been skinned and dried the legs turned a dirty lobster-red—hence, perhaps, Jerdon's blood-red legs. While I was away my wife saw one quite close to the tent, and told me its legs were greenish. I have sent the body in spirit to Professor Newton, by whom I hope the vexed question as to the correct systematic position of this form may be settled.

I saw this bird as low down as 9000 feet, near Jushin, in the Wurdwan. It has a plaintive whistling call, which once heard is not easily forgotten.

35. TRINGOIDES HYPOLEUCUS.

Common in Suru on the marshes at the foot of the glaciers, where I found it breeding in July. We found the young just hatched at Doonara, on the Suru side of the Bhut-kol Pass, where several pairs were breeding.

XXXI.—*On the Crimson-headed Wood-Partridge* (*Hæmatortyx sanguiniceps*). By W. R. OGILVIE GRANT.

(Plate X.)

Of the many wonderful new forms of bird-life which have been discovered in Borneo during recent years, none is more interesting and striking than this Wood-Partridge, the male of which is now figured for the first time. Although this

* The absence of hind toes, and the short and blunt nails, reminded me of a Bustard.—W. W. C.

rare bird was originally described by Dr. Sharpe fifteen years ago (Ibis, 1879, p. 266), from a female specimen obtained by Mr. W. H. Treacher near the Láwas River, no additional specimens reached this country till November 1891, when Mr. C. Hose had the good fortune to secure a second female on the moss-clad summit of Mount Dulit at an elevation of 5000 feet. Finally, in 1893, one of Mr. A. H. Everett's collectors captured an adult male on Mount Kina Balu, from which the figure in Plate X. has been taken. In spite of the efforts of various well-known collectors, these three specimens, so far as I am aware, are the only examples of this scarce bird known, neither Mr. J. Whitehead nor his collectors having met with a single example during many months spent on the slopes of Kina Balu. The type (from the Láwas River) is preserved in the Oxford Museum, but I am pleased to say that both the other specimens, so well depicted in Mr. Keulemans's excellent drawing, now form part of the National Collection, Mr. Everett having most generously presented the male example to Dr. Sharpe. The specimen was in rather poor condition when it arrived, the neck having been twisted round so that the beautiful crimson feathers of the fore neck and chest were mostly hidden amongst the feathers of the mantle, while in places the skin had been attacked by insects. The difficult and delicate task of making this unique bird into a good cabinet-specimen was entrusted to Mr. J. Cullingford, of Durham, and, thanks to his care and skill, we have had the satisfaction of receiving back a perfect skin, with every feather in its proper place.

This wonderful bird, surpassing even the expectations of those who had previously inspected the female specimens, is most nearly allied to the Ferruginous Wood-Partridges (*Caloperdix*); but the hind toe has a small well-developed claw, and the tarsi are armed with no less than three pairs of sharp spurs. As Mr. Everett's specimen did not arrive till vol. xxii. of the 'Catalogue of Birds' was almost ready for the binders, there was only room for a very short description of it in the addenda (p. 560). The plumage is very similar to that of the female, but the reddish chestnut

on the fore part of the neck and chest of the latter is replaced by an intensely bright crimson, the feathers being glossy and somewhat decomposed, while the dark brown feathers of the breast are indistinctly edged with pale crimson. The only member of the Partridge-tribe in any way approaching this bird in colour is the Hainan Wood-Partridge (*Arboricola ardens*), recently described and figured by Mr. F. W. Styan (*Ibis*, 1893, p. 436, pl. xii.).

This last-named *Arboricola* has a large patch of shining



a. Feather from lower back of *Hematortyx sanguiniceps*; *b.* Aftershaft.
c. Feather from lower back of *Caloperdix ocella*; *d.* Aftershaft.

orange-scarlet feathers on the middle of the neck and chest, and is, perhaps, a more remarkable instance than *Hematortyx* of the surprises nature has yet in store for us, belonging, as it does, to a genus in which even the closely allied forms from Upper Burma and Formosa show no traces of brilliant colour.

The Crimson-headed Partridge inhabits the dense forests of Northern Borneo, and all the examples have, I believe, been caught in snares: certainly those obtained by Messrs. Hose and Everett were obtained in this way. Mr. White-

head has already told us in his book of the constant warfare waged by the hill-tribes against all kinds of ground-game. This accounts for the scarcity of the new *Arboricola erythrophrys* of Kina Balu; and there can be little doubt that the *Hæmatortyx*, if it ever were plentiful, is now an extremely rare bird, or Mr. Whitehead would certainly have met with it. The structure of the feathers of the rump and upper tail-coverts in *Hæmatortyx* is remarkable and worthy of special notice. The feathers of these parts (see figure, p. 376) are rather long, and have the basal half of the shaft very wide and flattened. About halfway from the base the shaft becomes abruptly contracted, the terminal half being extremely fine and pliant. The same form of feather, but less strongly marked, characterizes the Argus and Peacock Pheasants, and there is a slight indication of it in *Rollulus*, while in *Calo-perdix* the shaft is normal. In no other species of game-bird is this peculiarity so strongly marked as in *Hæmatortyx*.

The synonymy of this bird stands as follows:—

HÆMATORTYX SANGUINICEPS. (Plate X.)

Hæmatortyx sanguinceps, Sharpe, Ibis, 1879, p. 266 (Láwas Mts.); Reichenow & Schalow, J. f. O. 1879, p. 423; Gould, B. Asia, vi. pl. 70 (1879); Everett, J. As. Soc. Str. Br. xx. p. 200 (1889); Hose, Ibis, 1893, p. 423 (Mt. Dulit); Grant, Cat. B. Brit. Mus. xxii. pp. 222, 560 (1893) (Mt. Kina Balu).

Adult male (from Mt. Kina Balu). General colour of the plumage brownish black; top of the head and nape dull deep crimson, paler and brighter on the sides of the head, cheeks, and throat; chest intensely bright crimson, and some of the blackish-brown feathers of the breast faintly edged with the same colour; under tail-coverts crimson, with the basal part and tips blackish. Tarsi armed with three pairs of well-developed sharp spurs. Bill yellowish horn; legs and feet brownish horn-colour in skin. Total length 10·5 inches wing 6·8, tail 2·9, tarsus 2·25, middle toe and claw 1·8.

Adult female (type from Láwas Mts.) differs from the male in having the chin and throat pale rufous, washed with

crimson, and the fore part of the neck and chest reddish chestnut. The tarsi are without spurs, and the bill, legs, and feet blackish horn. [Total length 12·5 (?) inches, wing 5·85, tail 2·8, tarsus 1·85: *vide* Sharpe.]

In a somewhat immature female (from Mt. Dulit) most of the wing-coverts have a rust-coloured spot at the extremity of the shaft, and some of the middle breast-feathers are mottled with reddish chestnut. Total length 10·5 inches, wing 6, tail 2·8, tarsus 1·9, middle toe and claw 1·6.

Hab. Northern Borneo: Lâwas Mts., Mt. Dulit, and Mt. Kina Balu.

XXXII.—On some new or little-known Shrikes from Central Asia. By M. MENZBIER, Professor of Zoology and Comparative Anatomy in the University of Moscow.

WHILST working at the Shrikes for my 'Ornithologie du Turkestan,' I found that under the name of "*Lanius mollis*, Eversm.," two very distinct species, which have separate geographical ranges, have been included by many ornithologists, including myself. The new species being darker and duller than *L. mollis*, I think that the name *Lanius funereus* will be found suitable for it. Two specimens of this new Shrike are in my possession—an adult male, erroneously marked as a female, obtained near Ulugchat, in Kashgaria, and a young male from the district of Kuldscha (river Kichi-bulak), both from the Thian-Shan range. As regards *L. mollis*, I have five specimens, all obtained in Mongolia—that is, in the Altai Mountains. I add a comparative diagnosis of the two species, as follows:—

L. FUNEREUS, sp. n.

Tectricibus alarum superioribus dorso haud concoloribus, in seniore nigris, radialibus solis griseo apicatis, cæteris unicoloribus, in juveni nigris, ferrugineo marginatis; fasciâ suboculari obscurâ in omni ætate

L. MOLLIS, Eversm.

Genis et auricularibus in juveni et femina dorso fere concoloribus, vix obscurioribus: tectricibus alarum minoribus in omni ætate dorso concoloribus: axillaribus albis vel albis vinaceo lavatis. Mas senior

conspicuâ, in juniore atro-brunneâ, in seniore aterrimâ : axillaribus in juniore fuscis, in seniore brunnescenti-cinereis ; interscapulio vix conspicuè fulvescente lavato, scapularium majorum apicibus et supracaudalibus minoribus grisescenti-ochraceis, supracaudalibus longioribus cinereis, nigro apicatis.

supra cinereus, interscapulio conspicue fulvescente tincto ; scapularium majorum apicibus et supracaudalibus omnibus rufo-ochraceis, haud notatis.

The differences between the two species will be clearly seen from the following detailed descriptions :—

LANIUS FUNEREUS, sp. n.

“*Lanius mollis*,” Menzb., Ibis, 1885, p. 356.

Adult male. General colour above, including the crown of the head, pale slaty grey, passing into pale fulvous grey on the tips of the greater scapulars and on the lesser upper tail-coverts ; the back tinged with brownish ; the longest upper tail-coverts tipped with black ; an indistinctly marked line of whitish grey over the eye ; a very narrow and incomplete frontal band, lores, and ear-coverts black ; quills brownish black ; basal portion of the primaries pure white, producing a conspicuous alar patch ; secondaries narrowly tipped with white ; upper coverts black, the nearest to the ulnar edge greyish on the tips. Tail-feathers black, the greater part of the outer web and the terminal portion of the inner web of the outer pair of feathers pure white, this colour decreasing towards the central feathers ; the fifth pair of rectrices only tipped with white, the whole of the central pair black. Chin dull white, the rest of the underparts whitish tinged with vinaceous and vinaceous cinnamon ; the fore neck, breast, and abdomen with narrow transverse vermiculations ; the sides greyish vinaceous ; the flanks and under tail-coverts pale vinaceous, deeper in tinge on the flanks ; under wing-coverts blackish brown marked with whitish ; axillaries greyish brown. Bill dark horn-brown ; feet black. Tail 5 inches, wing 5·1, bill 1·06, tarsus 1.

Nestling. General colour above and beneath brownish grey, back brownish ; scapulars slightly ferruginous ; upper tail-

coverts ferruginous, the under ones ochraceous; all parts but the back with transverse vermiculations, less developed on the chin and crown of the head. Tail-feathers brownish black, with white as in the adult, but less developed and washed with very pale rufous. Quills dirty blackish brown; basal portion of the primaries rufous white, producing a small alar speculum; secondaries edged on the tips with pale ferruginous; upper wing-coverts blackish brown, edged with ferruginous; under wing-coverts and axillaries blackish brown, with ferruginous edges on the lesser ones; a patch before the eye and ear-coverts blackish brown. Bill horn-brown; feet brown.

The description of the nestling-plumage is taken from a specimen obtained by Mr. Karelin on the river Irtysh in July 1844. Mr. Bogdanow described this as a young specimen of *L. mollis*, but, judging from the blackish-brown ear-coverts and axillaries, it is undoubtedly a nestling of *L. funereus*. I am much indebted to the Director of the Zoological Museum of the St. Petersburg Academy, Mr. Pleske, who was kind enough to send me this specimen for comparison.

I have in my own collection a nestling of *L. funereus* moulting into the first adult plumage. In general colour it is greyer than the specimen obtained by Mr. Karelin, but no other difference exists between them. On the breast many of the adult feathers are more vinaceous than in the adult. I possess no female of *L. funereus*, but I have no doubt that the specimen obtained by Mr. Karelin on the river Lepsa (Semiretchje), and described by Mr. Bogdanow as a female of *L. mollis*, is *L. funereus*, because we find in the description of the late Russian ornithologist that *the longest upper tail-coverts of this female are greyish rufous, broadly tipped with black*. That the young Shrike obtained by Mr. Karelin near the river Irtysh, and determined by Mr. Bogdanow as *L. mollis*, belongs to *L. funereus* I have already stated. I think, likewise, that a young Shrike with undeveloped quills, obtained by General Prjevalski near the river Zanna, in the eastern Thian-Shan, must be referred to *L. funereus*, the ear-coverts of this specimen (figured on

plate ii., fig. 2, in the well-known work of Mr. Bogdanow) being dark brown. Thus we see that of six specimens described by Mr. Bogdanow as *L. mollis* only three are really referable to it, viz.: the type of Eversmann, a specimen obtained by Mr. Beresovsky near Khobdo, in Mongolia, and a specimen from Nor-Zaïssan, presented by Mr. Slovzov, all being males. The remaining three specimens (a supposed adult female from the river Lepsa, a nestling from the river Irtysh, and another from the river Zanma) belong, I think, to *L. funereus*, which in its distribution is confined to the Thian-Shan range.

LANIUS MOLLIS, Eversm.

Adult male. General colour above, including the crown of the head, olive-grey, passing into grey on the lower back; the upper back brownish; tips of the longest scapulars, rump, and upper tail-coverts ochraceous buff, deeper in tone of colour on the scapulars; quills brownish black; basal portion of the primaries pure white, producing a conspicuous alar patch; secondaries tipped with white; wing-coverts black, except the lesser ones, which are entirely olive-grey; greater and median coverts tipped with grey; an indistinctly marked line of greyish white over the eye; lores and ear-coverts black; tail-feathers black, with whitish base, the whole outer web and terminal half of the inner web of the outer pair of feathers pure white, this colour increasing in extent towards the central pair; underparts tinged with vinaceous and vinaceous cinnamon; the fore neck, breast, and abdomen with narrow transverse vermiculations; the flanks vinaceous cinnamon; under wing-coverts white, slightly tinged with brownish on the greater ones; axillaries white. Bill dark horn-brown, paler at the base; feet black. Tail 5.1 inches, wing 4.8, bill 1.05, tarsus 1.05.

Adult female. General colour above, including the crown of the head, scapulars, and lesser wing-coverts, greyish tawny brown; the greatest scapulars edged with pale tawny ochraceous buff; the rump ochraceous buff; the upper and lower tail-coverts sandy buff, with traces of the vermiculations; a

narrow buffish line at the base of the upper mandible; an indistinctly marked line of buffish white over the eye; ear-coverts brownish; the tail-feathers coloured as in the male, but the feathers of the outer pair white, with brown shafts and patch on the basal half; quills blackish brown, with a less-developed white patch on the base of the primaries compared with the male; secondaries tipped with white; primary-coverts blackish brown, tipped with whitish; the greater and median coverts blackish brown, edged with tawny brown; underparts as in the male, but axillaries white tinged with vinaceous. Bill horn-brown, paler at base; feet black.

Young female. More rufous, with distinctly marked vermiculations on the sides of the neck and throat, as well as on the upper and under tail-coverts, and less developed white colour on the tail-feathers.

The nestling-plumage of *L. mollis* is unknown.

I proceed to give a description of a new species of small Shrike, which I name, from the coloration of its tail,

LANIUS DICHROURUS, sp. n.

Supra obscure cinereus, dorso brunnescente lavato; alis fusco-atris, primariis speculo albo, vix conspicuo, ornatis; subtus ex rosacescente pallide ochraceus; cauda maris adulti *Lanii collurionis*, auct., caudæ simili, sed colore nigro magis expanso. Cauda 3·4 poll., ulna 3·75, rostrum 0·75, tarsus 0·9.

Hab. in vicinitate lacus Nor-Zaïssan, fl. Kenderlik.

Adult male. General colour above dark smoky grey, tinged with brownish on the back; rump and upper tail-coverts paler; a narrow frontal band, feathers round the eye, and the ear-coverts black; an indistinct whitish superciliary and frontal band above the black; the lesser wing-coverts greyish brown; the middle and greater wing-coverts and the quills black-brown; the secondaries narrowly margined with buff; alar speculum nearly obsolete. The tail coloured like that of *L. collurio*, but the predominating colour black; central pair of tail-feathers black; the outer pair black, with the basal half of the inner web white, broadly margined with buffish on the outer web and on the terminal half of the inner web;

the white colour on the base of the inner web of tail-feathers, 2nd, 3rd, 4th, and 5th pairs, decreasing towards the central pair; the 2nd and 3rd pair narrowly margined with whitish on the outer web, and all but the central pair edged with buffish: throat white; the rest of the underparts pale buff-pink, with flanks vinaceous cinnamon; the greater under wing-coverts brown, the lesser ones brown with broad white edges; axillaries white; under tail-coverts white, tinged with ochraceous. Bill horn-brown, with base of mandible paler; feet dark brown.

The specimen described was obtained in 1885 on the river Kenderlik, which falls into the lake Nor-Zaïssan.

Lastly I must make mention of a Shrike which is probably a hybrid between *L. dichrourus* and *Otomela karelini*. The following is a description of this specimen:—

LIANIUS DICHROURUS × *OTOMELA KARELINI*.

Adult male. Crown of head and nape grey, which colour passes into whitish on the forehead; a broad line over the eye and ear-coverts white; a narrow frontal band, lores, and ear-coverts black; back, scapulars, and lesser wing-coverts grey, tinged with brownish rufous; median, greater, and primary-coverts, as well as the quills, brown; primaries dark brown towards the tips, with alar speculum more developed than on the wing of *L. dichrourus*; secondaries narrowly edged with whitish; upper tail-coverts rufous; tail-feathers rufous, with the basal portion of the inner web whitish and dark brown towards the tips, edged with ochraceous; central pair of tail-feathers dark brown, but whitish at the base; underparts of body white, slightly tinged with pale buff-pink. The specimen described is in the beginning of the moult; some new upper tail-coverts are vinaceous rufous, and probably the whole of the body above must be, in the fresh plumage, as dark as in *O. karelini*. Owing to the combination of colours just mentioned, the bird is perfectly intermediate between *L. dichrourus* and *O. karelini*. Tail 3·4 inches, wing 3·75, bill 0·75, tarsus 0·9.

This bird was obtained in July also on the river Ken-

derlik. Many specimens of the Shrikes in my own and Mr. Severtzov's collections are probably the results of hybridization between other well-defined species, but I prefer to describe and figure these Shrikes in my 'Ornithologie du Turkestan.' I may here mention that *Lanius raddei* (Dress.) is, in my opinion, one of these hybrids in very worn plumage.

XXXIII.—*Remarks on some Specimens of Central-Asiatic Shrikes.* By H. E. DRESSER, F.L.S., F.Z.S.

I AM greatly indebted to the courtesy of Professor Menzbier for an opportunity of examining the specimens which he has just described under the names of *Lanius funereus* and *Lanius dichrourus*, and for being able to compare them with some specimens that I have on loan and with others in my own collection. As regards the former, it appears to me to be a fairly distinguishable form of *Lanius mollis*; and if, as Prof. Menzbier states, the two forms have a different geographical range, he is, in my opinion, justified in separating them. The chief points of difference appear to me to be that *L. funereus* is, in adult plumage, greyer and less tinged with buff than *L. mollis*, and has the upper tail-coverts with a distinct subterminal black band, whereas in *L. mollis* the upper tail-coverts are buffy grey, without any band. Moreover there is much less white on the tail in *L. funereus* than in *L. mollis*, the former having the basal half or two thirds of the outer rectrices black, whereas in the male *Lanius mollis* more than half of the inner web, and in the female nearly the whole of the feather, is white. It would, however, be advisable to examine a larger series before deciding this question, for these Shrikes are subject to no small amount of variation, as I have observed even in the few that I have examined. I may here remark that I have on loan the female specimen from the river Lepsa referred to by Prof. Menzbier, and that it appears to be referable to his *L. funereus*, as it has much less white on the tail than *L. mollis*, and the upper tail-coverts are marked with a very distinct subterminal blackish band. I

am therefore glad to be in a position to confirm his opinion respecting this specimen. With regard to Prof. Menzbier's statement respecting the Shrike which I described under the name *Lanius raddei*, I think that he is mistaken, as my type shows no trace of close affinity to the specimen that he has described under the name *Lanius dichrourus* $\times$ *Otomela karelini*, but is, on the contrary, so close to Prof. Menzbier's *L. dichrourus* that I doubt whether they can be separated specifically. It differs from *L. dichrourus* merely in having the upper parts paler and clearer in tone of colour, and in having more white on the tail-feathers. Again, the specimen is not in worn plumage, but fresh moulted. The pattern of the tail is precisely the same as in the type of *Lanius dichrourus*; but in the latter the outer tail-feather on each side has the terminal third black margined with white, whereas in the type of my *L. raddei* the black is restricted to a line along the terminal third of the shaft, broadening considerably towards the tip. I may best describe my specimen as closely resembling the specimen of *Lanius karelini* sent by Prof. Menzbier, except that the tail, instead of being rufous, is similar to that of *L. dichrourus*, though it has more white on it, as above stated. I have reason to believe that my *L. raddei* is conspecific with *L. bogdanowi*, as previously pointed out by me (Ibis, 1893, p. 378), and it would therefore be advisable to compare Prof. Menzbier's *L. dichrourus* with the type of *L. bogdanowi*, which is, I believe, in the St. Petersburg Museum.

I may add that Mr. Blanford has examined the above-mentioned specimens along with me, and concurs generally in what I state.

XXXIV.—*Descriptions de quelques Espèces nouvelles d'Oiseaux du Pérou central.* Par le COMTE HANS DE BERLEPSCH et JEAN STOLZMANN.

(Plate XI.)

M. JEAN KALINOWSKI, correspondant du Muséum Branicki de Varsovie, ayant achevé son exploration du Pérou central

pour entreprendre ses recherches en Bolivie, nous nous proposons de publier une liste complète des oiseaux trouvés par cet infatigable voyageur. Pour le moment, nous nous bornerons à donner les descriptions de plusieurs espèces qui, selon nous, sont encore inconnues.

1. DUBUSIA STICTOCEPHALA, sp. n.

D. tæniatæ (Boiss.) affinis, sed pilei plumis omnibus lævæ caeruleo terminatis (nec unicoloribus nigris), fascia pectorali ochracea minus conspicua medioque interrupta, nigredine gulæ magis ad pectus producta, et tectricibus subcaudalibus flavescens nec ochraceis sane diversa; "iride rubra, rostro pedibusque nigris."

♂ ♂ ad. Long. tot. 210, al. 88-95, caud. 82-90, culm. 14-16.5, tars. 28 mm.

Hab. in Peruvia alta centrali, altitudine 9500 ad 1200 pedum.

Trois mâles adultes et un jeune de Maraynioc (Pariayacu et Huarmipaycha). Forme proche de la *D. tæniatæ* de l'Équateur, mais facilement reconnaissable aux fortes stries d'un bleu de ciel, occupant tout le sommet de la tête et la nuque, ces régions étant d'un noir uniforme chez la *D. tæniatæ* à l'exception d'un large sourcil s'étendant sur les côtés de la nuque. En outre, la bande pectorale ochracée est à peine marquée et interrompue au milieu chez la forme péruvienne; en revanche le noir de la gorge s'étend beaucoup plus sur la poitrine. Les sous-caudales sont plus jaunâtres que chez l'espèce équatorienne.

2. PSEUDOCHLORIS SHARPEI, sp. n.

Sycalis uropygialis, Tacz. (nec Lafr. et d'Orb.) P. Z. S. 1874, p. 522; id. Orn. du Pérou, iii. p. 58.

Pseudochloris uropygialis, Sharpe (nec Lafr. et d'Orb.), Cat. Birds B. M. xii. pp. 775, 776 (descr. specim. e Junin).

P. uropygialis (Lafr. et d'Orb.) e Bolivia affinis, differt capitis lateribus flavo-olivaceis pileo fere concoloribus (nec canis), corporis lateribus flavo-olivaceis (nec canis), colore flavo corporis inferioris pallidiore, alis caudaque paullo brevioribus, rostro attamen longiore.

Long. al. 88, caud. 49.5, culm. 10.75, tars. 18.5 mm.

Hab. in Peruvia centrali (Junin et Ingaipirca).

Onze exemplaires d'Ingapirca (mai et juin 1890) et de Tarma (juillet et octobre 1893).

Berlepsch ayant reçu du voyageur Garlepp un mâle adulte de la *P. uropygialis* typique de la Bolivie, nous avons pu constater que l'oiseau du Pérou central nommé "*uropygialis*" par Taczanowski et Sharpe en est tout-à-fait distinct. La vraie *P. uropygialis*, ainsi que l'indiquent Lafresnaye et d'Orbigny dans leur diagnose (Mag. de Zool. 1837, p. 75), a les côtés de la tête d'un gris cendré, couleur qui tranche bien sur l'olive jaunâtre du pileum et des côtés du cou. Dans l'espèce péruvienne, au contraire, les côtés de la tête sont d'un olive jaunâtre, comme le pileum, ou un peu plus verdâtre. Il n'y a que les petites plumes entre le bec et l'œil qui soient grisâtres.

En outre, dans l'espèce bolivienne, les côtés du corps sont largement teints de gris cendré, tandis qu'ils paraissent jaunâtre à peine lavés d'olive dans la forme péruvienne. Cette dernière diffère aussi par le jaune des parties inférieures d'un ton plus pâle ou moins saturé; le pileum d'un olive plus jaunâtre; les tectrices sous-alaires plus lavées de jaune; le menton d'un gris blanchâtre plus étendu; les ailes et la queue un peu plus courtes, et le bec distinctement plus long.

On voit par les descriptions de MM. Taczanowski et Sharpe, faites d'après les oiseaux de Junin (l. c.), que ces différences sont tout-à-fait constantes; c'est pourquoi nous n'hésitons pas à décrire cette espèce comme nouvelle, en la dédiant à notre excellent ami M. le Dr. R. B. Sharpe, de Londres.

~3. SPINUS OLIVACEUS, sp. n.

♂ mari *S. capitalis*, Cab., simillimus, sed multo minor, differt etiam dorso olivaceo obscuriore, uropygio dorso fere concolore, pectore et abdomine obscurius flavo-virentibus, speculo remigum primariorum flavo multo brevioribus, necnon tertiariis angustius olivaceo-griseo marginatis.

♀ a femina *S. capitalis* crassitie minore, gula, pectore, lateribusque corporis obscure flavescenti-viridibus (nec pallide flavescantibus), dorso uropygioque obscurius viridibus, speculoque alari flavo brevissimo distinguenda.

♂ ad. Long. al. 63·5-64, caud. 37·5-37·75, culm. 8·75, tars. 12·5-13·5 mm.

♀ ad. Long. al. 62, caud. 37·5, culm. 8·75, tars. 12·5 mm.

Hab. in Peruvia centrali (Vitoc) et in Peruvia septentrionali*.

Trois mâles ad. et une femelle ad. de Vitoc (24 juillet et 13 février 1893). "Iris brun foncé, bec noirâtre, pattes noires" (*Kalinowski*).

Cette espèce nouvelle, quoique très voisine du *S. capitalis*, en paraît tout-à-fait distincte. Elle se reconnaît surtout à sa taille beaucoup plus petite (à peine plus forte que celle du *S. siemiradzskii*). La couleur générale est plus foncée, le dessous du corps fortement lavé d'olive, surtout sur la gorge, la poitrine et les côtés du corps. Le croupion est d'un olive jaunâtre à peine plus clair que le dos, tandis que chez le *S. capitalis* il est plus ou moins lavé de jaune pur. Le miroir alaire est beaucoup plus petit: celui des remiges primaires est long de 7·5 mm., tandis qu'il en mesure 10 mm. chez le *S. capitalis*. Les sous-caudales sont d'un jaune très vif et saturé, tranchant nettement sur la couleur olivâtre foncée du crissum. Les bordures des remiges tertiaires sont plus étroites et d'un olive grisâtre au lieu de blanchâtre.

La différence entre les deux espèces se manifeste surtout chez les femelles. La femelle du *S. olivaceus* est beaucoup plus foncée et d'un olive jaunâtre très foncé sur la gorge, la poitrine et les côtés du corps, tandis que ces parties sont d'un jaune pâle légèrement lavé d'olivâtre chez les femelles du *S. capitalis*.

Le miroir alaire sur les remiges primaires n'a que 5 mm. de longueur, et sur les remiges secondaires il est complètement couvert par les tectrices. Les bordures de remiges tertiaires sont plus étroites et d'un gris olivâtre au lieu de blanc ou jaunâtre.

M. Kalinowski ayant envoyé les deux formes le *S. ictericus peruanus*† et le *S. olivaceus*, de la même localité (Garita del

* Il y a une paire de cette espèce au Musée Berlepsch, recueillie par Garlepp à Huayabamba.

† Une sous-espèce nouvelle dont la description sera prochainement publiée par nous.

Sol), il est évident qu'il ne s'agit pas ici de deux races, mais de deux espèces tout-à-fait distinctes.

† 4. *ORCHILUS ALBIVENTRIS*, sp. n.

O. auriculari (Vieill.) similis, sed abdomine fere omnino albo, nec sulphureo, hypochondriis solummodo flavo lavatis, pileo obscurius olivaceo, collo postico cum occipite purius cinereo, auricularibus medio purius albescentibus et sordidius nigro-brunneo terminatis, mandibula fere omnino nigra nec dimidio basali albescente distinguendus.

♂. Long. al. 38, caud. 24.5, culm. 9.25, tars. 14 mm.

Hab. in Peruvia centrali orientali.

Un mâle unique de La Merced (2600 pieds d'altitude), 10 septembre 1890. "Longueur totale 94, envergure 140 mm. Iris rouge-brique jaunâtre" (*Kalinowski*).

Le type se trouve au Musée Branicki à Varsovie. Le sommet de la tête olive grisâtre foncé; collier nuchal gris-cendré, dos olive-verdâtre, plus clair et plus vif au croupion; dessous du corps blanc sale, strié longitudinalement de noirâtre et de gris cendré sur la gorge, les côtés du corps et la poitrine; côtés du bas-ventre lavés de jaune-soufre pâle; lores d'un blanc sale, tectrices auriculaires blanchâtres dans la partie médiane, noirâtres dans la partie terminale et à la base; œil bordé d'un liséré étroit isabelle; tectrices alaires noirâtres au milieu, bordées largement d'olive verdâtre, qui devient jaune verdâtre sur les grandes tectrices; remiges d'un brun noirâtre, les primaires finement bordées d'olive, les secondaires plus largement d'un jaune verdâtre, et les tertiaires encore plus largement d'un jaune verdâtre assez vif; rectrices brun-noirâtres bordées de vert olivâtre. Bec noir; pattes jaunâtres à ongles noirs.

Cette espèce nouvelle est proche de l'*Orchilus auricularis* (Vieill.) du Brésil, mais s'en distingue par l'abdomen blanc au lieu de jaune soufre, par la couleur du pileum, qui est plus foncée, par le gris de la nuque plus étendu et plus clair, par les couvertures auriculaires plus blanchâtres au milieu et d'un noirâtre plus terne au bout; par la mandibule inférieure entièrement noire, au lieu de blanchâtre dans sa moitié basale, et par la queue un peu plus courte.

5. *TYRANNISCUS FRONTALIS*, sp. n.

T. gracilipedi (Scl. et Salv.) affinis, sed multo major, differt etiam margine frontali lato flavescenti-albo (in *T. gracilipedi* inconspicuo), necnon corpore inferiore purius flavo, minus olivaceo variegato.

♂ ad. Long. tot. 137, 135, al. 59·5, 58·5, caud. 55·5, 53·5, culm. 9·75, 8·75, tars. 17, 16·75 mm.

♀. Long. tot. 119, al. 52·75, caud. 42·5, culm. 9, tars. 14·5 mm.

Hab. in Peruvia centrali orientali.

Trois mâles et une femelle de Garita del Sol (18 juillet, 16 août, et 3 septembre) et de San Emilio (24 mai). "Iris d'un blanc sale, bec noir, pattes d'un brun plombé. Envergure chez les mâles 210, 203 mm.; chez la femelle 180 mm." (*Kalinowski*).

Cette espèce nouvelle paraît se rapprocher surtout du *T. gracilipes*, Scl. et Salv., de l'Amazone supérieure, mais elle s'en distingue par des dimensions plus fortes, par une bande frontale d'un blanc jaunâtre, qui manque chez le *T. gracilipes*, et par les parties inférieures du corps d'un jaune de soufre plus clair, moins mélangé d'olive. Il faut ajouter, que nous n'avons pas eu pour comparer des oiseaux typiques de l'Amazone supérieure, mais seulement des individus du Roraima (Guiane Brit.), déterminés par M. O. Salvin comme *T. gracilipes*.

Du *T. chrysops*, Scl., cette nouvelle espèce se distingue au premier coup d'œil par la bande frontale et le tour de l'œil d'un blanc jaunâtre au lieu d'un jaune pur et par le pileum d'un ardoisé brunâtre au lieu d'un vert d'olive, enfin par les parties inférieures d'un jaune de soufre légèrement lavé de vert olive grisâtre sur la poitrine et sur les côtés du corps, tandis que chez le *T. chrysops* les parties inférieures sont d'un blanc jaunâtre à taches grisâtres sur la poitrine.

Du *T. improbatus* il se distingue également par la couleur d'ardoise du pileum (au lieu d'un brun verdâtre), et par la gorge et la poitrine d'un jaune de soufre mélangé de verdâtre, au lieu d'un gris blanc jaunâtre mélangé de grosses taches grises sur la poitrine etc.

+ 6. MITREPHANES OLIVACEUS, sp. n.

M. pileo medio crista e plumis elongatis, latis, versus apicem angustatis, nuchamque attingentibus, instructo : corpore superiore capitisque lateribus obscure olivaceo-viridibus ; cristæ plumis nigrescentibus olivaceo marginatis : corpore subtus rufescente olcagineo-viridi, abdomine medio flavescentiore : gulæ plumis griseis olcagineo terminatis : remigibus, rectricibus, tectricibusque alarum superioribus fusco-nigris, colore dorsi marginatis, tectricibus alarum majoribus remigibusque tertiariis potius olivaceo-griseo marginatis : maxilla nigra, mandibula flava.

Obs. A *M. aurantiiventri*, Lawr., e Costarica crassitie majore, rostro angustiore, capite distinctius cristato, corpore supra purius olivaceo-viridi, corpore subtus obscure rufescenti-olivaceo nec ochraceo-rufa, tertiariis alarumque tectricibus olivaceo griseo nec ochraceo marginatis primo visu distinguendus.

Long. tot. 145, al. 68·5, caud. 62, culm. 8·75, tars. 12·75 mm.

Hab. in Peruvia centrali et Bolivie orientalis montibus.

Un mâle unique recueilli à Garita del Sol le 3 septembre, 1891. " Iris brun foncé, bec noir à mandibule inférieure d'un carné jaunâtre, pattes noires " (*Kalinowski*).

Cette espèce nouvelle paraît être un *Mitrephanes* typique allié au *M. aurantiiventris* (Lawr.) de Costarica et Veragua. En ce qui concerne la forme il n'en diffère que par les ailes et la queue plus longues, le bec plus étroit, et par la forme de la huppe, qui est plus développée et composée de plumes plus allongées et plus atténuées vers la pointe.

Quant à la coloration, cette espèce nouvelle diffère de toutes celles connues en ayant les parties inférieures d'un vert oléagineux roussâtre presque uniforme. Le haut de la poitrine est plus lavé de roussâtre que les autres parties inférieures. Les plumes de la gorge sont grises et vertes à la pointe. Le milieu du ventre est d'un jaune verdâtre terne, les tectrices sus-caudales un peu plus claires, mélangées de vert olive obscur. Les tectrices sus-alaires noirâtres.

Les parties supérieures du corps sont d'un vert olive obscur uniforme. Les plumes de la huppe sont noirâtres, bordées latéralement et à la pointe d'un vert olive. Les côtés de la tête et du cou et les petites tectrices sus-alaires sont presque de la même teinte que le dos. Les remiges, les rectrices et

les tectrices sus-alaires moyennes et grandes sont noirâtres, la teinte du dos bordant les rectrices et occupant le bout des tectrices sus-alaires moyennes. Le bout des grandes tectrices sus-alaires et le bord des remiges secondaires et tertiaires sont d'un vert olive grisâtre. La mandibule supérieure est noirâtre, l'inférieure d'un jaune presque orangé.

La 3ème remige est la plus longue, la 2ème et la 4ème sont un peu plus courtes, la 5ème à peu près de 2·5 mm. plus courte; la 1ère est à peu près de 9 mm. plus courte que la 3ème et à peu près égale à la 6ème.

Trois peaux, recueillies par M. Gustav Garlepp à Quebrada Honda, dans la Bolivie orientale, qui se trouvent au Musée Berlepsch, s'accordent tout-à-fait avec le type de Garita del Sol.

7. *PIPRA COMATA*, sp. n.

Pipra leucocilla coracina simillima, differt pilei plumis nivcis multo longioribus dorsum attingentibus, cristam longam erectilem formantibus; cauda quoque multo longiore, necnon rostro graciliore distinguenda.

♂ ad. Al. expans. 240, 238, long. tot. 129, 124, al. 71, 68·75, caud. 37, 35·5, culm. 9·75, 10, tars. 15, 15·5 mm.

♂ jr. Al. expans. 240, 241, long. tot. 130, 125, al. 70·5, 69·5, caud. 38, 37·5, culm. 8·5, 9·75, tars. 14·5, 15·5 mm.

Hab. in Peruvia centrali.

Quatres mâles adultes et deux jeunes mâles. La Gloria (août 1890) et Garita del Sol (juin et août 1891, avril 1893). "Iris rouge; mandibule supérieure noire, inférieure d'un plombé clair; pattes d'un plombé noirâtre" (*Kalinowski*).

Cette forme nouvelle est très voisine de la *P. leucocilla coracina*, Sel., de la Colombie et de l'Équateur, mais s'en distingue par la huppe blanche beaucoup plus allongée et plus érectile, se terminant presque en pointe au haut du dos, au lieu d'être arrondie à la nuque. Chez la *P. leucocilla* et la *P. coracina* la longueur du pileum blanc du front jusqu'à la nuque est de 27 à 31, chez la *P. comata* elle est de 36 à 40 mm.

Toutes les plumes du pileum sont plus allongées et plus larges et blanches jusqu'à leur base, tandis que chez la *P. coracina* les bases en sont plus ou moins noirâtres.

En outre la *P. comata* se distingue par la queue beaucoup plus longue et par le bec plus mince à mandibule inférieure plus pâle.

Le noir du corps est très intense et bleuâtre comme chez la *P. leucocilla coracina*.

Les jeunes mâles diffèrent aussi des jeunes mâles ou femelles de la *P. leucocilla* par le gris du pileum plus clair et plus prolongé vers le haut du dos, par le vert du dos plus clair, et par la queue plus longue.

8. SIPTORNIS TACZANOWSKII, sp. n.

Synallaxis flammulata, Tacz. Orn. Pér. ii. p. 139.

S. flammulata, ScL., simillima, differt gula juguloque ad pectus usque fulvo-rufescentibus (nec mentum solummodo fulvo-flavo), pectore et ventre medio sordide albis nec fusco-flammulatis, striis dorsi pileique multo angustioribus, rostro quoque brevior.

Hab. in Peruvia centrali.

Deux mâles et une femelle de Maraynioc (2 décembre 1891, 6 août 1892, et 28 janvier 1893).

Feu Taczanowski (P. Z. S. 1885, p. 95) avait déjà indiqué les différences entre les oiseaux du Pérou central et les oiseaux typiques de l'Équateur. Ces différences, consistant principalement dans l'extension du roux de la gorge jusqu'au bas du cou le blanc immaculé du milieu de l'abdomen et la finesse des stries du dessus du corps chez les oiseaux du Pérou, paraissent tout-à-fait constantes. C'est pourquoi nous lui avons imposé le nom de *S. taczanowskii*.

+ 9. DYSITHAMNUS DUBIUS, sp. n.

D. schistaceo, d'Orb., simillimus, sed rostro longiore multo magis compresso, necnon rectricibus minus graduatis fere æqualibus, lateralium apicibus minime albo marginatis, distinguendus.

Long. al. 66.5, caud. 53.5, culm. 20.75, tars. 20.5 mm.

Hab. in Peruvia centrali.

Un mâle adulte de La Merced du 26 août 1890. "Iris rouge sale" (*Kalinowski*).

Stolzmann ayant comparé le mâle adulte de La Merced avec le spécimen typique du *Th. schistaceus*, d'Orb., au Musée de

Paris, a trouvé qu'il en diffère par le bec plus long et beaucoup plus comprimé, surtout vers la pointe terminale, qui est munie d'un crochet plus long et plus éfilé. En outre la carène de la mandibule supérieure lui a paru plus saillante chez l'oiseau du Pérou que chez celui de la Bolivie. Berlepsch ayant reçu plus tard des peaux boliviennes du *D. schistaceus*, recueillies par M. Garlepp, et les ayant comparées avec les notes prises par lui sur l'oiseau de La Merced a trouvé à peu près les mêmes différences. Berlepsch a aussi pu constater que l'oiseau de La Merced aurait la queue moins étagée, les rectrices externes de 3 à 4 mm. seulement plus courtes que les médianes, tandis que cette différence est de 10 à 11·5 mm. chez le *D. schistaceus* de la Bolivie.

Chez l'oiseau de La Merced il n'y a pas trace de bordures blanchâtres à la pointe des rectrices externes, bordures qui, au contraire, sont bien prononcées chez les oiseaux boliviens.

10. *MYRMOTHERULA LONGICAUDA*, sp. n.

Myrmotherula surinamensis, Tacz. (nec Gm.) P. Z. S. 1882, p. 30.

Myrmotherula multostriata, Tacz. (nec Sel.) Orn. Pér. ii. p. 39.

M. surinamensi (Gm.) affinis, sed cauda fere duplo longiore primo visu distinguenda.

♂ a mari ejusdem speciei differt gula abdomineque medio fere immaculatis (absque striis), plumis dorsi medii ad basin griseis nec niveis, necnon rectricibus duabus externis in vexillo externo—nisi apice late albo—majore ex parte albo marginatis.

♀ a fœmina *M. surinamensis* dictæ valde diversa: supra nigra, plumis lateraliter late fulvescenti-albo marginatis, subtus pallide ochraceo-alba, jugulo pectoreque sparsim nigro striatis.

	Al. mm.	Caud. mm.	Culm. mm.	Tars. mm.
<i>M. longicauda</i> :				
♂ ad. (Per. centr.) ..	47·5	35·5	14·5	17·5
♂ ad. (Bolivia)	49·0	36·5	14·75	17·5
♀ ♀ (Per. centr.) ..	51·25, 48·0	38·5, 39·0	14·75	18·0
<i>M. surinamensis</i> :				
♂ (Chimbo æquat.) ..	50·5	27·0	15·75	16·75
♀ (" ") ..	53·5	27·0	14·25	17·75

Hab. in Peruvia centrali et septentrionali (coll. Kalinowski et Stolzmann) et in Bolivia (San Mateo; coll. Garlepp).

Un mâle adulte de Chontabamba (Vitoe) du 28 août 1891, et deux femelles de La Merced et La Gloria du 21 juillet 1890 et du 14 novembre 1891. "Iris brun noirâtre."

Cette espèce nouvelle, par la coloration du mâle, ressemble beaucoup à la *M. surinamensis* (Gm.), mais elle s'en distingue au premier coup d'œil par la queue beaucoup plus longue. Le mâle diffère aussi du mâle de la *M. surinamensis* par la gorge et le milieu de l'abdomen presque uniformément blanches, sans stries noirâtres, par les plumes du milieu du dos grisâtres à la base au lieu d'un blanc pur, et par l'extension du blanc sur les deux rectrices externes en forme de bordures à la barbe extérieure qui s'étendent de pointes blanches de l'extrémité vers la base des plumes. Ces bordures blanches manquent chez la *M. surinamensis*, qui présente aussi des pointes blanches plus petites à l'extrémité des rectrices extérieures. Enfin, chez la *M. longicauda* la queue est plus étagée, les rectrices médianes dépassant les externes de 9.5 à 10 mm. (au lieu de 3 à 4 mm. comme chez la *M. surinamensis*).

La différence la plus frappante se voit chez les femelles des deux espèces. Tandis que la femelle de la *M. surinamensis* présente le dessus de la tête d'un roux foncé varié de stries noirâtres, et la gorge et la poitrine d'un roux fauve presque sans indications de stries, la femelle de la *M. longicauda* ressemble plutôt à son mâle, dont elle ne diffère que par les bordures blanches des parties supérieures, qui sont lavées de jaune roussâtre; les parties inférieures teintées de fauve, surtout à la poitrine; enfin par les stries noirâtres de la poitrine moins prononcées.

On ne peut supposer que l'espèce décrite ci-dessus soit la même que la *M. multostriata*, Sel. (décrite du Rio Ucayali; coll. Hauxwell), car M. Selater, qui a dernièrement réuni la *M. multostriata* à la *M. surinamensis*, aurait certainement remarqué la grande différence dans la longueur de la queue, dont il ne dit rien dans la description originale (P. Z. S. 1858, p. 234). En tout cas, il faudra réexaminer les types de la *M. multostriata*, qui se trouvent au Musée Britannique.

Feu Taczanowski, en décrivant les oiseaux recueillis par Stolzmann à Huambo, Pérou du nord (Orn. Pér. ii. p. 39, sous le nom de *M. multostriata*, Scl.), avait déjà bien exprimé les différences qui existent entre notre *M. longicauda* et la *M. surinamensis*. Berlepsch a reçu un mâle adulte de cette espèce de San Mateo en Bolivie, par le voyageur Garlepp.

11. MYRMOTHERULA SORORIA, sp. n.

Myrmotherula gutturalis, Tacz. (nec Scl. et Salv.) P. Z. S. 1882, p. 30 (Huambo) ; id. Orn. Pér. ii. p. 42.

♂ mari *M. gutturalis*, Scl. et Salv., simillimus, sed differt colore supra griseo-brunneo (nec saturate rufo-brunneo), tectricibus alarum superioribus nigris (nec brunneis), his maculis apicalibus albis fere duplo majoribus instructis, necnon colore pectoris schistaceo obscuriore usque ad ventrem medium extenso facile distinguendus.

♀ a fœmina *M. gutturalis* dictæ differt colore corporis superioris olivaceo-brunneo (nec rufo-brunneo), et tectricibus alarum superioribus nigrescentibus (nec brunneis), maculis apicalibus fulvis majoribus præditis.

♂. Long. al. 54, caud. 42, culm. 14, tars. 15·5 mm.

♀. Long. al. 54, caud. 42, culm. 15·5, tars. 16·25 mm.

Hab. in Peruvia centrali et sept. or.

Un mâle et trois femelles de La Gloria (juillet 1890 et janvier 1891) et de La Merced (septembre 1890)). “ Iris brune-roussâtre, pattes plombées ” (*Kalinowski*).

Cette forme est bien distincte de la *M. gutturalis* typique de la Guiane anglaise. Le mâle s'en distingue par les parties supérieures du corps d'un brun grisâtre ou schistacé (au lieu d'un brun roussâtre), les tectrices sus-caudales au contraire d'un roux brun vif, la poitrine d'un schistacé obscur qui s'étend presque jusqu'au bas-ventre, au lieu d'un gris pâle restreint au haut de la poitrine chez la *M. gutturalis*; les tectrices sus-alaires noirâtres (au lieu de brunâtres) terminées en pointes blanches beaucoup plus larges que chez la *M. gutturalis*; enfin par les tectrices sus-alaires schistacées au lieu de brunâtres.

La femelle se distingue de la femelle de la *M. gutturalis* par les parties supérieures du corps d'un brun olivâtre (au lieu d'un roux-brun) et par les tectrices sus-alaires noirâtres

(au lieu de brunâtres) et terminées en pointes roussâtres beaucoup plus larges.

Aussi chez la *M. sororia* les ailes sont un peu plus longues, et le bec un peu plus long et plus éfilé.

Peut-être la *M. sororia* est-elle encore plus proche de la *M. spodionota*, Scl. et Salv., de l'Équateur oriental, ou même identique; elle en paraît néanmoins distincte par la couleur des parties supérieures d'un brun grisâtre, tandis que la *M. spodionota* est décrite comme "supra cinerea." La queue est roussâtre (au lieu de "brunnescenti-cinerea"), les tectrices sus-caudales d'un roux brun vif, ce qui n'est pas mentionné dans la diagnose de la *M. spodionota*, etc.

†12. MYRMECIZA SPODIOGAстра, sp. n.

M. ♂ mari *M. hemimelanae* simillima, differt abdomine medio obscure cinereo nigro variegato (nec albo).

♀ foeminae *M. hemimelanae* simillima, sed gula pectoreque clarius rufis et tectricibus subcaudalibus palide fulvescentibus (nec rufo-brunneis) distinguenda.

♂. Long. al. 57·5, caud. 40·5, culm. 15, tars. 22·25 mm.

♀. Long. al. 57, caud. 39, culm. 15·5, tars. 22·5 mm.

Hab. in Peruvia centrali (*Mus. Branicki*).

Un mâle et une femelle de Borgoña du 29 avril 1891.

Le mâle de cette *Myrmeciza* nouvelle ressemble en tout à celui de la *M. hemimelana*, Scl., mais en diffère par la couleur du milieu de l'abdomen, qui est d'un schistacé clair mélangé de noirâtre au lieu d'un blanc pur. Les plumes schistacées présentent des marques irrégulières noirâtres et une bordure apicale d'un gris blanchâtre. Les côtés du ventre sont d'un brun olivâtre moins foncé, et le noir de la poitrine est plus prolongé jusqu'au haut du ventre.

La femelle de la *M. spodioastra* ressemble également à celle de la *M. hemimelana*, et n'en paraît différer que par le roux de la gorge et de la poitrine un peu plus clair, la couleur roussâtre de l'abdomen plus claire, et les couvertures sus-caudales d'un roussâtre clair au lieu d'un roux brun vif.

Quoique très voisine de la *M. hemimelana*, Scl., cette espèce en paraît bien distincte. La différence dans la couleur de l'abdomen du mâle est très frappante. C'est peut-être

une forme occidentale, remplaçant la *M. hemimelana* de l'orient. Nous l'avons comparée avec des oiseaux typiques de la *M. hemimelana* de la Bolivie (recueillis par Garlepp) et avec des individus de Huambo, Pérou du nord oriental, qui s'accordent avec les spécimens boliviens.

13. *SPATHURA ANNÆ*, sp. n.

Steganura peruana, Tacz. (nec Gould) P. Z. S. 1874, p. 541 ;
id. Orn. Pér. i. p. 327.

♂ mari *S. addæ* maxime affinis, differt basibus plumarum corporis inferioris fuscis, minime albis, et rectricibus externis cruciatis.

	Long. tot.	Al.	Rectr. ext.	Rectr. subext.	Rectr. med.	Culm.
	mm.	mm.	mm.	mm.	mm.	mm.
♂ ♂ ad.	124, 118	47.5, 46	68, 63	32, 32.5	21, 20	16.25, 15.5
♀	89	47.5	28	30.75	20.75	15.75

Hab. in Peruvia centrali—La Gloria, Chanchamayo, Garita del Sol, et Vitoc.

Deux mâles adultes, une femelle adulte et trois jeunes mâles recueillis par M. Jean Kalinowski en juin, juillet, et novembre 1891. "Iris noire, bec noir, pattes carnées" (*Kalinowski*).

Les types se trouvent au Musée Brauicki (Varsovie) et au Musée Berlepsch.

Nous nous permettons de dédier cette espèce nouvelle d'oiseau-mouche à Madame la Comtesse Anna Branicka, épouse du Comte Xavier Branicki.

Malheureusement nous n'avons pas sous la main d'individus de la *S. addæ*, qui, par la forme des spatules, paraît se rapprocher le plus de cette espèce nouvelle; néanmoins la *S. annæ* paraît tout-à-fait distincte, ayant les rectrices externes complètement croisées (ce qui rappelle un peu la *Loddigesia mirabilis*). Elle diffère également par le manque complet de bases blanches aux plumes des parties inférieures, caractère qui paraît propre à la *S. addæ* selon M. Salvin (voir Cat. B. Brit. Mus. xvi. pp. 375, 378). Il nous paraît aussi, en comparant la figure de la *S. addæ* publiée par M. Gould, que notre espèce nouvelle a le bec plus long, les spatules plus petites, et les rectrices externes plus longues.

†14. *MACROPSALIS KALINOWSKII*, sp. n.

Hydropsalis segmentata, Tacz. P. Z. S. 1874, p. 545; id. Orn. Pér. i. p. 223.

♂ ad. corpore supra subtusque nigro omnino rufo-brunneo fasciato et maculato, abdomine pallidiore, pectore abdomineque maculis albescentibus variegatis; torque jugulari irregulari fulvo, nuchali e maculis nonnullis rufo-brunneis composito; plumis scapularibus nonnullis griseo-albis nigro punctulatis; tectricibus subcaudalibus fulvis nigro irregulariter fasciatis; rectricibus externis elongatis lyriformibus; pogonio externo scapisque—nisi in basi fulvescente interdum nigro variegatis—pure albis, pogonio interno nigro-brunneis fasciis irregularibus incompletis pravisque (20 circiter) albescentibus fusco variis, rectricibus reliquis multo brevioribus usque ad medias brevissimas gradatim abbreviatis (mediis quam subexternæ 8–10 mm. brevioribus), omnibus nigro-brunneis late fulvo-brunneo irregulariter fasciatis et—mediis exceptis—fascia tenui serrata antecapicali alba prædita: remigibus nigro-brunneis, primo in pogonii externi dimidio basali rufo-marginato, cæterorum—nisi in parte tertia apicali concolori—pogoniis externis rufo maculatis vel fasciatis.

♀ fœminæ *M. segmentatæ* simillima, sed nucha rufo maculata diversa.

Obs. ♂ a maribus *M. lyruræ* et *M. segmentatæ*, quibus similis, rectricibus externis multo brevioribus earumque pictura primo visu distinguendus.

♂ ♂. Long. tot. 566–515, al. 168–162, rectr. extern. 468–407, rectr. subextern. 125–110, culm. 14·5–14, caudæ furca 363–306 mm.

♀ ♀. Long. tot. 264–217, al. 166–161, rectr. ext. 169–119, culm. 14·5–14 mm.

Hab. in Peruvia centrali (Pariayacu, près Maraynioc, 26 octobre, 5 et 6 novembre, 12 décembre 1891, 16 septembre 1892, et 26 février 1893).

Trois femelles et cinq mâles adultes recueillis par M. Jean Kalinowski. “Iris noire, bec noir, pattes d’un brun carné” (*Kalinowski*).

Les types se trouvent au Musée Branicki (Varsovie) et au Musée Berlepsch.

Cette espèce nouvelle est bien distincte des deux connues,

M. lyra et *M. segmentata* *, dont elle diffère au premier coup d'œil par la forme et la coloration des rectrices externes. Ces rectrices sont beaucoup plus courtes et plus étroites que chez les espèces citées. Elles sont lyriformes comme chez la *M. lyrura*, car elles divergent beaucoup du tiers basal jusqu'au tiers apical, où elles commencent à se dresser en dedans de sorte que les bouts atténués se touchent presque. Les tiges et la barbe externe de ces rectrices sont presque entièrement blanches ; chez la *M. lyrura* elles sont entièrement noires, et chez la *M. segmentata* les tiges sont blanches, mais les barbes externes noires tachetées de roussâtre.

Les barbes internes des rectrices externes sont noirâtres, variées de bandes obliques irrégulières blanchâtres maculées de noirâtre, qui ordinairement ne dépassent pas le milieu de la barbe. Chez la *M. segmentata*, au contraire, ces barbes sont d'un noir uniforme, et chez la *M. lyrura* elles sont noirâtres, bordées intérieurement de roussâtre.

Les autres rectrices sont légèrement étagées de sorte que les médianes ne sont que de 8 à 12 mm. plus courtes que les subexternes, ce qui rappelle plus la *M. segmentata* que la *M. lyrura*. Toutes ces rectrices courtes, à l'exception des deux médianes, présentent une bande étroite blanchâtre éloignée de la pointe de 10 mm. à peu près (au lieu de 70 mm. à peu près comme chez la *M. lyra*). Du reste elle présentent les mêmes bandes irrégulières roussâtres variées de noirâtre comme chez la *M. segmentata*.

Les parties supérieures du corps sont plus variées de bandes et de macules roussâtres comme chez la *M. lyrura*, surtout sur la tête. La bande rousse de la nuque n'est pas aussi complète que chez la *M. lyrura* ; il n'y a que des taches d'un roux-brun, qui forment une sorte de bande.

Les scapulaires sont en partie d'un blanc grisâtre (au lieu de roussâtre comme chez la *M. lyrura*), variées de pointes noirâtres. Il y a des taches triangulaires blanchâtres sur la poitrine et le ventre, qu'on ne voit pas chez la *M. lyrura*. Les ailes sont plus courtes que chez la *M. lyrura*.

Un mâle, qui paraît adulte, a les deux rectrices externes

* Avec laquelle elle a été confondue par feu docteur Taczanowski.

en train de se développer. Elles dépassent à peine les sub-externes de 45 mm. Elles sont fortement atténuées dans leur moitié apicale et convergent légèrement en dedans. Le reste du plumage est identique à celui des autres espèces.

15. *DENDROBATES VALDIZANI*, sp. n.

♂. *D. digno*, ScL. et Salv. (ex Colombia), affinis, sed differt tectricibus alarum superioribus maculis latis flavescentibus sanguineo terminatis (nec parvis albescentibus strictissimis) præditis, tectricibus caudæ superioribus flavo-olivaceis fere unicoloribus, minime flavo-albo et fusco-olivaceo transfasciatis, necnon gula pectoreque in fundo læte fulvis nec viridescenti-albis, abdomine imo etiam lætius fulvo; rostro quoque graciliore et brevior.

Long. tot. 167, al. 99·5, caud. 60, culm. 20·5; tars. 18·5 mm.

Hab. in Peruvia centrali (Huacras, Vitoc, hauteur 7000 pieds).

Un mâle unique recueilli par M. Jean Kalinowski le 14 décembre 1892. Iris brun foncé. Musée Branicki (Varsovie).

Cette espèce nouvelle se rapproche le plus du *D. dignus*, (ScL. et Salv.) : Harg. Cat. B. xviii. p. 351. Cependant elle se distingue par plusieurs détails de la coloration: sur les tectrices sus-alaires de la première et de la deuxième rangées il y a des taches très larges, presque cordiformes, d'un jaune olive, terminées par une large bordure apicale d'un rouge de sang. Chez le *D. dignus*, au contraire, il n'y a que des petites stries d'un blanc légèrement jaunâtre, sans aucun mélange ou bordure de rouge de sang.

Chez l'espèce nouvelle les tectrices sus-caudales sont d'un olive presque uniforme, seulement un peu plus claires aux bordures apicales et à taches obscures, peu visibles, dans la partie anté-apicale; chez le *D. dignus* elles sont rayées régulièrement d'un jaune blanchâtre et d'olive brunâtre. Chez la nouvelle espèce les parties inférieures présentent une coloration plus vive, car le fond de la gorge et de la poitrine est d'un jaune olivâtre saturé au lieu d'un blanc verdâtre. Les raies obscures de ces parties sont plus noirâtres, moins verdâtres; le ventre est d'un jaune olive plus

vif; le haut de la gorge (menton) et la région mystacale paraissent plus variées de jaunâtre au lieu d'être d'un noirâtre presque uniforme. Les bordures externes des remiges sont d'un jaune olive plus verdâtre, moins brunâtre. Le haut du dos un peu plus lavé de rouge de sang. Le bec est plus mince et plus court.

Nous dédions cette nouvelle espèce à Don Dario Valdizan de Lima, ami de notre voyageur, à qui il a prêté plus d'une fois son concours distingué.

! LEPTOSITTACA, gen. nov.

Leptosittaca genus novum Psittacorum, generi *Conuro* affinis, differt spatio latiore ante- et suboculari nudo, necnon remigis quarti apice integro.

Species unica cognita, *L. branickii*, coloribus *Gnathosittacam icterotem* (Mass. et Souanc.) fere æmulat.

16. LEPTOSITTACA BRANICKII, sp. n. (Plate XI.)

Species magnitudine et forma fere *Conuri leucophthalmi*, sed alis caudaque paulo longioribus et rostro debiliore et brevior. Spatio latissimo ante- et suboculari marginique angusto frontali regione nasali incluso nudis. Corpore toto obscure viridi, subtus pallidior; regione lorali striaque angusta hinc inde sub spatio nudo oculari ad tectrices auriculares ducto tectricibusque auricularibus superioribus elongatis, fasciculam formantibus, splendide aureis, loris obscurioribus brunneo-aureis; margine frontali angustissimo obscure aureo-brunneo; pileo anteriore interdum cæruleo-viridi tincto; abdomine medio cum corpore laterali tectricibusque subalaribus posterioribus flavo-olivaceis, hoc maculis aurantio-rubris variegato. Rectricibus omnibus—duabus mediis exceptis—in pogonio interno sordide flavescenti-rubris, remige primo tectricibusque primariorum superioribus obscure cæruleo marginatis. Rostro pallide corneo, dimidio apicali albescente; pedibus corneis.

♂ ♂ ad. Long. tot. 342–340, al. 187–184, caud. 197–192, culm. 26·75, tars. 19 mm.

♀ ♀ ad. Long. tot. 360–341, al. 185–179, caud. 195–182, culm. 27·5–25·75, tars. 19–18·5 mm.

Hab. in Peruvia alta centrali, ad alt. 10,000 ad 13,000 pedum—Maraynioc, Culumachay, Pariayacu, et Huarmi-pacha.

Deux mâles adultes, quatre femelles adultes, et un jeune (23 juillet), recueillis par Jean Kalinowski les 6 et 23 juillet 1892 et les 2 mars, 27 avril, 15 juin, et 15 novembre 1893. "Iris rouge ou rouge ochracée et rouge sale; bec d'un gris corné sale, pattes brunâtres" (*Kalinowski*).

Cette espèce, fort intéressante, que nous avons l'honneur de dédier à M. le Comte Ladislas Branicki, a été découverte par Jean Kalinowski dans les montagnes très élevées du Pérou central. Il est fort surprenant qu'un oiseau si remarquable ait pu rester si longtemps inconnu, quoiqu'habitant une région déjà bien explorée par Tschudi, Jelski, et autres voyageurs.

Cette espèce nouvelle est tellement éloignée de toutes les perruches connues que nous sommes forcés d'en faire un nouveau genre (*Leptosittaca*).

Par la forme, la *Leptosittaca branickii* ressemble le plus à quelques espèces du genre *Conurus*, surtout au *Conurus leucophthalmus*, mais elle s'en distingue par la grande extension de la peau nue en avant et en dessous de l'œil et par la forme de la quatrième remige, qui n'est pas du tout atténuée ou échancrée dans la partie terminale de la barbe interne, comme chez toutes les espèces de *Conurus*. En outre, les ailes et la queue sont un peu plus longues, et le bec plus faible et plus court, que chez le *C. leucophthalmus*.

Il y a une peau nue étroite sur la région frontale, qui entoure les fosses nasales comme chez *Conurus*. La partie basale de la mandibule inférieure est largement emplumée, plus encore que chez *Conurus*. Les plumes des régions frénales sont courts et denses, comme chez *Gnathosittaca*.

Par ses couleurs, *L. branickii* ne ressemble à aucun *Conurus*, mais plutôt à *Gnathosittaca icterotis*.

Les parties supérieures du corps sont d'un vert obscur, à peu près comme chez la *Gnathosittaca*; les parties inférieures sont d'un vert plus pâle, très terne sur la poitrine.

Les régions frénales sont d'un doré luisant brunâtre. De là, une ligne étroite d'un jaune doré passe au-dessous de la peau nue de la région sous-oculaire et s'étend jusqu'aux tectrices supérieures des oreilles. Ces dernières sont

allongées et forment une sorte de faisceau ; elles sont d'un jaune doré luisant très vif. Le haut du ventre, les côtés du corps, et les tectrices sous-alaires postérieures sont d'un jaune d'olive verdâtre, mais les bases des plumes du haut du ventre présentent une couleur rouge orangée dans leur partie basale, couleur qui se manifeste en forme de taches bien prononcées sur le haut-ventre.

Les barbes internes des rectrices (sauf les deux médianes) sont d'un rouge-jaunâtre sale et terminées de bordures verdâtres. La première remige et les petites tectrices supérieures des primaires sont bordées extérieurement de bleu terne.

Le bec est corné, blanchâtre dans sa moitié terminale ; les pattes sont d'un corné foncé.

Le jeune oiseau a la queue très courte, et quant à la coloration il ne diffère des adultes que par la poitrine variée de jaunâtre, par les freins d'un jaune safran pâle, et par le bec presque entièrement blanchâtre.

17. *THERISTICUS BRANICKII*, sp. n.

Theristicus caudatus, pt., Tacz. (nec Bodd.) Orn. Pér. iii. p. 417 (Junin).

♂. *Th. caudato* (Bodd.) gula mediana plumosa affinis, differt pectore inferiore abdomineque medio albis, tectricibus alarum superioribus griseis nec albis, pectore superiore pallidius rufescente lavato, capitis lateribus rufescentibus nec albescentibus, rostro pedibusque multo brevioribus, rectricibus quoque multo brevioribus æqualibus (cauda minime cuneata), necnon regione frontali et ante-oculari corrugatis (nec lævibus).

	Long. tot.	Al.	Caud.	Culm.	Tars.
	mm.	mm.	mm.	mm.	mm.
♂ ♂	705-640	410	198-195	131-120	70-65
	620	398	197	110.5	66

Hab. in Peruvia alta—lacus Junin (*Jelski*), et Maraynioc, Pariayacu (*Kalinowski*).

Deux mâles adultes et une femelle adulte recueillis par Jean Kalinowski le 22 décembre 1891 et le 13 octobre 1892. Iris d'un rouge sale, bec brun, d'un plombé verdâtre à

l'extrémité; les parties nues d'un brun noirâtre; pattes rouges.

Cette espèce nouvelle, que nous dédions à M. le Comte Xavier Branicki, ressemble au *Th. caudatus* (Bodd.), ayant comme lui la strie emplumée au milieu de la gorge et non un sac nu comme le *Th. melanopis* (Lath.). Elle diffère des deux espèces connues par des détails de sa coloration. Comparée au *Theristicus caudatus* la nouvelle forme présente les différences suivantes :

1. Toute la poitrine inférieure et tout le ventre (sauf les côtés du bas-ventre, les plumes des tibias et les couvertures sous-caudales, qui sont d'un noir mat légèrement lustré de vert) sont d'un blanc uniforme, séparé du blanc roussâtre de la poitrine supérieure par une bande étroite grise. Chez le *Th. caudatus* toutes ces parties sont d'un noir schistacé uniforme.

2. La poitrine supérieure est d'un blanc roussâtre au lieu d'un roussâtre intense.

3. Les côtés de la tête sont d'un roussâtre concolore au pileum, tandis qu'elles sont d'un blanc jaunâtre chez le *Th. caudatus*, tout-à-fait différent du roux intense du pileum.

4. Les couvertures sus-alaires antérieures (les grandes et les médianes) sont d'un gris argenté au lieu d'être blanches.

5. Les rectrices sont plus verdâtres au lieu d'un noir bleu verdâtre.

6. La queue est un peu plus courte et presque rectiligne au lieu d'être cunéiforme comme chez le *Th. caudatus*: c'est-à-dire que les rectrices extérieures sont de la même longueur que les médianes, au lieu d'être plus courtes.

Du *Th. melanopis* le *Th. branickii* se distingue par la ligne emplumée au milieu de la gorge et le manque de sac. Il en diffère également par sa coloration: chez le *Th. melanopis* ce n'est que la poitrine inférieure (largeur de 60 mm. à peu près) qui est d'un roussâtre, tandis que chez le *Th. branickii* toute la poitrine inférieure et la plus grande partie du ventre sont d'un blanc sale uniforme. Chez le *Th. branickii* les tectrices sus-alaires sont grises au lieu de blanches. Enfin, le *Th. branickii* a les ailes et la queue plus longues.

XXXV.—*On the Birds of the Philippine Islands.*—Part I.
Mount Arajat, Central Luzon. By W. R. OGILVIE GRANT.
With Field-Notes by JOHN WHITEHEAD.

MOST of the readers of 'The Ibis' are no doubt already aware that Mr. John Whitehead is once more busily engaged in the collecting-field, determined, if possible, to eclipse his former splendid achievements on Mount Kina Balu. This time the scene of his labours is the island of Luzon, one of the Philippines, of which the greater part, especially the mountains to the north, has never been visited by a naturalist. The only collections that have been made in this island have been obtained in the immediate neighbourhood of Manila, all the highlands to the north being unexplored. For many years it has been one of my most earnest desires to induce some really first-rate naturalist to thoroughly explore Luzon and some of the larger unknown islands of the group, and it was with unbounded satisfaction that I succeeded in securing Mr. Whitehead's co-operation. The mountains in the north of this island rise to a height of from 7000 to 8000 feet, and there can be little doubt that many unknown birds will be discovered, while possibly some almost forgotten species, such as *Polyplectron napoleonis* and *Arboricola gingica*, the localities of which are unknown, will be rediscovered.

Being merely the result of a three weeks' trial trip to Mount Arajat, 40 miles to the north of Manila, the present collection contains no novelties; but, as the locality has not been previously visited by a naturalist, I have thought it worth while to record the various species and give a few notes. In the last letter received from Mr. Whitehead, written from the "highlands of North Luzon, 5000 feet," he tells me that he has made a large collection containing a number of interesting forms, which I hope to have the pleasure of examining shortly. He appears to have lost none of his old energy and indomitable perseverance, rising superior to all the difficulties which presented themselves on his arrival. One of the most serious obstacles he had to contend with was the impossibility of obtaining men

who know how to make skins, the Malay taxidermists that he expected to join him at Singapore having failed to appear. He has now, however, taught two men to skin birds fairly well, although as yet they have no idea of how to make up their specimens into good cabinet skins, and the whole of this work has to be done by Mr. Whitehead himself. The specimens in the first collection are as beautifully prepared as in former years, and I hope this will be only the first of a series of interesting records of unknown lands and their birds.

The following is a list of the species represented in the present collection from Mount Arajat :—

1. *SPILORNIS HOLOSPILUS* (Vigors); Sharpe, Cat. B. Brit. Mus. i. p. 293 (1874).

♂ ad. "Eye king's yellow; face pale yellow; legs yellow; bill black, bluish at base."—J. W.

2. *HALIASTUR INTERMEDIUS*, Gurney; Sharpe, Cat. B. Brit. Mus. i. p. 314 (1874).

♀ ad. "Eye brown; feet yellow; bill whitish yellow."—J. W.

3. *MICROHIERAX ERYTHROGENYS* (Vigors); Sharpe, Cat. B. Brit. Mus. i. p. 369 (1874).

The male has the inner webs of the primary quills irregularly barred with wide white markings, while in the female these parts are uniform black. I cannot find that any reference has been previously made to this sexual distinction, which is very marked in all the specimens I have examined.

4. *ORIOLOUS CHINENSIS*, Linn.; Sharpe, Cat. B. Brit. Mus. iii. p. 203 (1877).

Specimens from Luzon appear to differ constantly from those from the more southern islands of the Philippines in having the yellow forehead extending past the middle of the crown, but some specimens represent intermediate stages, and it is therefore impossible to consider the Luzon bird different.

Mr. Whitehead remarks that this bird is common.

5. *DICRURUS BALICASSIUS* (Linn.); Sharpe, Cat. B. Brit. Mus. iii. p. 230 (1877).

6. *ARTAMIDES STRIATUS* (Bodd.); Sharpe, Cat. B. Brit. Mus. iv. p. 18 (1879).

7. *PERICROCOTUS CINEREUS*, Lafresn.; Sharpe, Cat. B. Brit. Mus. iv. p. 83 (1879).

8. *MUSCICAPA GRISEISTICTA* (Swinh.); Sharpe, Cat. B. Brit. Mus. iv. p. 153 (1879).

9. *HYPOTHYMIS AZUREA* (Bodd.); Sharpe, Cat. B. Brit. Mus. iv. p. 274 (1879).

10. *SIPHIA PHILIPPINENSIS* (Sharpe); Sharpe, Cat. B. Brit. Mus. iv. p. 450 (1879).

11. *PHYLLOSCOPUS BOREALIS* (Blasius); Seebohm, Cat. B. Brit. Mus. v. p. 40 (1881).

12. *LOCUSTELLA FASCIOLATA* (Gray); Seebohm, Cat. B. Brit. Mus. v. p. 109, pl. v. (1881).

13. *IOLE PHILIPPENSIS* (Gm.); Sharpe, Cat. B. Brit. Mus. vi. p. 58 (1881).

“Common.”—J. W.

14. *PYCNONOTUS GOIAVIER* (Scop.); Sharpe, Cat. B. Brit. Mus. vi. p. 141 (1881).

15. *CITTOCINCLA LUZONIENSIS* (Kittl.); Sharpe, Cat. B. Brit. Mus. vii. p. 91 (1883).

♂. “Eye and bill black; feet flesh-colour.”—J. W.

16. *ORTHOTOMUS DERBIANUS*, Moore; Sharpe, Cat. B. Brit. Mus. vii. p. 224 (1883).

“Upper mandible brown; lower mandible and feet flesh-colour; eye light brown. Not uncommon.”—J. W.

17. *PARUS ELEGANS*, Less.; Gadow, Cat. B. Brit. Mus. viii. p. 22 (1883).

“Fairly common.”—J. W.

18. *PARUS SEMILARVATUS* (Salvad.); Gadow, Cat. B. Brit. Mus. viii. p. 38 (1883).

“Only one pair seen.”—J. W.

19. *HYLOTERPE PHILIPPINENSIS*, Wald.

Pachycephala philippinensis, Gadow, Cat. B. Brit. Mus. viii. p. 221 (1883).

20. *RHABDORNIS MYSTACALIS* (Temm.).

Climacteris mystacalis, Gadow, Cat. B. Brit. Mus. viii. p. 339 (1883).

"Only one specimen seen."—J. W.

21. *MACROPTERYX COMATA* (Temm.); Hartert, Cat. B. Brit. Mus. xvi. p. 517 (1892).

22. *EURYSTOMUS ORIENTALIS* (Linn.); Sharpe, Cat. B. Brit. Mus. xvii. p. 33 (1892).

23. *MEROPS BICOLOR*, Bodd.; Sharpe, Cat. B. Brit. Mus. xvii. p. 60 (1892).

"Common."—J. W.

24. *ALCEDO ISPIDA*, Linn.; Sharpe, Cat. B. Brit. Mus. xvii. p. 141 (1892).

25. *HALCYON GULARIS* (Kuhl); Sharpe, Cat. B. Brit. Mus. xvii. p. 227 (1892).

"Common."—J. W.

26. *PENELOPIDES MANILLÆ* (Bodd.); Grant, Cat. B. Brit. Mus. xvii. p. 373 (1892).

♂. "Iris brown; bill dull brownish pink; bare skin on face fleshy pink; feet dark brown. Common."—J. W.

27. *MICROSTICTUS FUNEBRIS* (Valenc.); Hargitt, Cat. B. Brit. Mus. xviii. p. 492 (1890).

28. *THRIPONAX JAVENSIS* (Horsf.); Hargitt, Cat. B. Brit. Mus. xviii. p. 498 (1890).

My attention has been drawn by Mr. Whitehead to the concealed patch of downy white feathers situated on the middle of the lower back in a male specimen obtained by him. Mr. Hargitt makes no mention of this patch in his description, so it may be worth while to call attention to its presence. It is well-marked in two female specimens from Manila, but entirely absent in a bird from Mindanao,

and but slightly indicated, if present at all, in Malaccan specimens.

29. *SURNICULUS VELUTINUS*, Sharpe; Shelley, Cat. B. Brit. Mus. xix. p. 230 (1891).

30. *CENTROPUS VIRIDIS* (Scop.); Shelley, Cat. B. Brit. Mus. xix. p. 349 (1891).

31. *CENTROPUS UNIRUFUS* (Cab. & Heine); Shelley, Cat. B. Brit. Mus. xix. p. 367 (1891).

"Not very common, and difficult to obtain."—J. W.

32. *DASYLOPHUS SUPERCILIOSUS* (Cuv.); Shelley, Cat. B. Brit. Mus. xix. p. 403 (1891).

♀ ad. "Eye light straw-yellow; skin on face deep king's yellow; bill pale pea-green, skin at base orange-red; feet yellow, tarsus greenish at joint. Fairly common."—J. W.

33. *PRIONITURUS LUCONENSIS*, Steere; Salvad. Cat. B. Brit. Mus. xx. p. 420 (1891).

A female example sent by Mr. Whitehead is exactly similar to the adult male, but there is less dark blue on the outer tail-feathers.

34. *TANYGNATHUS LUCONENSIS* (Linn.); Salvad. Cat. B. Brit. Mus. xx. p. 424 (1891).

Wing of male, 7·5 inches; of female, 7 inches.

35. *BOLBOPSITTACUS LUNULATUS* (Scop.); Salvad. Cat. B. Brit. Mus. xx. p. 504 (1891).

36. *LORICULUS PHILIPPENSIS* (Müll.); Salvad. Cat. B. Brit. Mus. xx. p. 524 (1891).

An immature male has the cheeks near the base of the mandible tinged with blue like those of the female, and the large orange-red patch on the chest is represented only by a few scattered orange-tipped feathers.

37. *OSMOTRERON AXILLARIS* (Bp.); Salvad. Cat. B. Brit. Mus. xxi. p. 48 (1893).

38. *PHABOTRERON LEUCOTIS* (Temm.); Salvad. Cat. B. Brit. Mus. xxi. p. 67 (1893).

"Common."—J. W.

39. *TURTUR HUMILIS* (Temm.) ; Salvad. Cat. B. Brit. Mus. xxi. p. 434 (1893).

"Only a few seen."—J. W.

40. *GEOPELIA STRIATA* (Linn.) ; Salvad. Cat. B. Brit. Mus. xxi. p. 458 (1893).

"Common."—J. W.

XXXVI.—*On the Distribution of Genera and Species of Non-migratory Land-Birds in the Philippines.* By J. B. STEERE, Professor of Zoology and Comparative Anatomy in the University of Michigan*.

IN the years 1887-88 a party of naturalists from the University of Michigan visited the Philippines for the purpose of scientific exploration. During this visit several important facts relating to the distribution of birds in these islands were noticed. As one island after another was explored it was found, as was to be expected, that most of the genera of the birds were continually recurring, thus giving a general similarity to the avifauna of all the islands.

Each genus was ordinarily represented by only a single species in one place ; so that the number of species and the number of genera in any one locality were nearly equal. This resulted from the fact that in a large number of genera the islands possessed but a single widely distributed species of each, while in a large number of other genera, though each genus was represented in the islands by several species, each of these species occupied a limited area of its own, consisting of one or more adjacent islands. In this limited area it existed by itself, sharply separated from the other species of the same genus.

This reappearance of genera in new specific forms in each distinct area was so frequent with a large number of them that the members of the party learned to expect and to look for local species whenever a new island was reached.

On making a study of the distribution of the genera and

* A paper read before the American Association for the Advancement of Science, at Indianapolis, August 1890.

species of birds collected by the party in these islands, on our return to the United States, the facts above noticed were found to be of wider application and of more importance than was at first supposed, and to point to a law of distribution which, if established, must have great influence upon theories of the evolution of species.

In this study only the collections made by the members of the party have been used. Great care was taken with these in noting the exact place of collection, sex, colour of eyes, and other particulars, while in the case of many collections formerly made in the islands it was supposed to be sufficient to label them as from the Philippines.

About five thousand specimens of birds were collected by the party, these belonging to about four hundred species. They were collected on seventeen distinct islands of the archipelago, which were chosen, from their size and location, as representative of the whole.

These collections, while not comprising examples of all the species known from the islands, are so nearly complete that any just conclusions drawn from their study must be accepted as truths which further exploration will only strengthen.

The general arrangement followed has been that of Lord Walden and of Dr. Bowdler Sharpe, in their published lists of Philippine birds. The names of genera and species have been made to agree generally with those given in the 'Catalogue of the Birds in the British Museum,' so far as the volumes of that work had been issued when this paper was first prepared.

The land-birds of the Philippines collected by the expedition, so far as identified, belong to 157 genera and number 328 species.

Of these, six genera (List A)—

Lanius,	Locustella,
Motacilla,	Acrocephalus,
Anthus,	Phylloscopus,

—with twelve species, are migratory, with some or all of their species found outside the Philippines, and have been left out of consideration, though the non-migratory species of these genera seem to be distributed according to the same laws that govern the other resident birds.

There are left 151 genera and 316 species of resident land-birds. Of these, 75 genera were found represented in the Philippines by single species each. These are (List B) :—

Cacatua.	Culicicapa.
Accipiter.	Pratincola.
Lophotriorchis.	Abrornis.
Spizaetus.	Cryptolopha.
Pernis.	Xanthopygia.
Butastur.	Dasycrotapha.
Haliaetus.	Dendrobiastes.
Haliastur.	Ægithina.
Elanus.	Micropus.
Microhierax.	Merula.
Pandion.	Monticola.
Polyoaetus.	Geocichla.
Bubo.	Copsychus.
Scops.	Climacteris.
Strix.	Chalcostetha.
Tiga.	Corone.
Harpactes.	Acridotheres.
Eurystomus.	Calornis.
Alcedo.	Sturnia.
Macropteryx.	Sarcops.
Chætura.	Gracula.
Batrachostomus.	Padda.
Lyncornis.	Mirafra.
Cacomantis.	Passer.
Chalcococcyx.	Treron.
Chrysococcyx.	Carpophaga.
Hierococcyx.	Myristicivora.
Dasylophus.	Ptilocolpa.
Lepidogrammus.	Hemiphaga.
Pyrrhocentor.	Ianthœnas.
Dryococcyx.	Chalcophaps.
Anthracoceros.	Calœnas.
Artamus.	Geopelia.
Lalage.	Gallus.
Buchanga.	Megapodius.
Muscicapa.	Excalfactoria.
Rhipidura.	Turnix.
Eumyias.	

These genera contain, to a great extent, large and long-winged species of Hawks, Owls, Cuckoos, Starlings, Pigeons, &c., which may pass readily from island to island, many

of them being spread over the whole archipelago and some species reaching the adjacent countries. A few of them are Bornean genera, perhaps but lately introduced into Paragua, which have not had time to become more widely distributed through the archipelago, and in some cases have hardly as yet formed distinct species. Examples of these are *Pernis*, *Tiga*, *Buchanga*, *Ægithina*, and *Gracula*. A few are Philippine genera, differentiated as yet into single species only, or having formerly existed in more species they have been reduced to their present state by the great changes of area and other conditions to which the islands are subject. Such are the genera of Cuckoos—*Lepidogrammus*, *Dasylophus*, and *Dryococcyx*,—the Starling *Sarcops*, and the curious Timeline form *Dasycrotapha**.

It is probable that a few genera from this list—among them *Scops*, *Batrachostomus*, and *Megapodius*—will be found to have more than one species in the islands. In this case they will fall into List C, and will in no sense weaken the conclusions of this paper.

In 53 genera (containing 153 species) each genus is represented in the Philippines by two or more species, each of which exists in a limited area of its own, sharply separated by sea-channels from the similar areas occupied by the other species of the same genus.

These genera, with the number of species of each found occurring in the archipelago, are as follows (List C) :—

Prioniturus 4.	Xantholæma 2.
Cyclopsitta 2.	Caprimulgus 2.
Loriculus 7.	Surniculus 2.
Spilornis 3.	Eudynamis 2.
Falco 2.	Centrococcyx 3.
Thriponax 4.	Buceros 3.
Mulleripicus 3.	Craniorrhinus 2.
Chrysocolaptes 5.	Penelopides 6.
Yungipicus 4.	Artamides 5.
Pelargopsis 2.	Edoliisoma 3.
Actenoides 3.	Pseudolalage 2.

* [Nec *Dasycrotapha*, as incorrectly spelt, Cat. B. vii. p. 574.—See P. Z. S. 1878, p. 114.—ED.]

Hyloterpe 4.	Pycnonotus 2.
Pericrocotus 2.	Cittocincla 3.
Dicrurus 4.	Parus 2.
Siphia 2.	Sitta 2.
Philentoma 2.	Zosterops 4.
Zeocephus 3.	Prionochilus 3.
Setaria 2.	Æthopyga 4.
Broderipus 2.	Arachnothera 2.
Oriolus 4.	Anthothreptes 2.
Erythropitta 2.	Corvus 2.
Macronus 2.	Sarcophanops 2.
Mixornis 3.	Oxyerca 3.
Ptilocichla 3.	Munia 2.
Chloropsis 2.	Macropygia 2.
Irena 4.	Phlogœnas 2.
Poliolophus 4.	

Future observations will probably remove *Falco* from this list to the one which follows. Dr. Sharpe does not recognize the genus *Broderipus* in the Oriolidæ nor the genus *Actenoides* among the Kingfishers. If these genera are thrown out, the species placed under them will also fall into the following list.

Several of these genera, among which are *Caprimulgus*, *Surniculus*, *Eudynamis*, *Erythropitta*, *Pycnonotus*, *Parus*, and *Sitta*, possess but two Philippine species each, one of which inhabits the islands of Paragua and Balabac on the west, while the other species is very generally distributed over the remaining islands.

Perhaps one of the most characteristic genera of List C is *Loriculus*, containing the small, green, blue-winged, and red-rumped Parrots. This genus comprises seven species, which have the following distribution:—*L. philippinensis* occupies the islands of Luzon and Marinduque; *L. regulus* the islands of Panay, Guimaras, Negros, and Masbate; *L. mindorensis* the island of Mindoro; *L. chrysonotus* the island of Cebu; *L. worcesteri* the islands of Samar and Leyte; *L. siquijorensis* the little island of Siquijor; and *L. hartlaubi* the islands of Mindanao and Basilan. The western islands of Paragua and Balabac seem to lack the genus altogether. Though some 150 specimens of this genus were procured, in no case

were individuals of two species found inhabiting the same island, though the straits separating islands are in some instances very narrow. This is notably so with the islands of Negros and Cebu, occupied respectively by *L. regulus* and *L. chrysonotus*. These islands approach each other so closely at the Straits of Dumaguete that the outlines of houses and trees on one island can be readily discerned from the other.

The genus of small Hornbills, *Penelopides*, with six species, is another good example of the method of distribution of species in this list. *Penelopides panini* inhabits Guimaras, Panay, Negros, and Masbate; *P. manillæ* Luzon and Marinduque; *P. affinis* Mindanao; *P. basilanica* Basilan; *P. samarensis* Samar and Leyte; and *P. mindorensis* the island of Mindoro. The western islands seem to lack this genus also.

In 17 genera and 74 species each genus is represented in the islands by several species, two or more of which may be found inhabiting the same island; but the species thus found together, with the same generic name, differ greatly in size, colouring, or other characteristics, and belong to different natural sections or subgenera. These sections or subgenera themselves may each be represented in the archipelago by several species; but where this occurs each species is found isolated and separated from all the other species of the same subgenus, just as are the species of the genera given in list C. These genera, with the number of species of each, are the following (List D):—

Astur 2.	Iole 6.
Ninox 4.	Orthotomus 8.
Merops 2.	Dicaeum 10.
Ceyx 6.	Cinnyris 7.
Haleyon 5.	Ptilopus 3.
Collocalia 2.	Phabotreron 6.
Hypothymis 4.	Osmotreron 2.
Cyanomyias 2.	Turtur 2.
Hirundo 3.	

Authors have already attempted in several cases to raise the natural sections of these genera to generic rank.

Whenever the birds of two sections of one of the genera named above differ greatly in size, the species of the section of larger longer-winged birds are more widely distributed than the smaller birds of the other, one of the larger species being able to extend itself over the areas of several of the smaller forms. The genus *Ninox* is an example of this. *Ninox lugubris*, a large, long-winged, long-tailed form, seems to be distributed over the whole archipelago; while the other section of smaller short-tailed birds, of which *Ninox philippensis* is an example, contains at least three species—one found in the south, one in the central islands, and the other in Luzon. The genus of Ground-Pigeons, *Phabotreron*, is another example of this method of distribution, the larger *Phabotreron amethystina* apparently extending all over the areas of the other five smaller species.

The distinct conditions under which these subgenera exist together were frequently apparent even in our hurried visit. The species of Bee-birds, *Merops*, were very closely observed. The two species *M. bicolor* and *M. philippinus* probably exist together on every island of the group. *M. bicolor* is social, hundreds sometimes feeding together, in groves and forests, at a height of fifty to a hundred or more feet from the ground. They appear to be closely limited to honey-bees as food. They were found nesting semi-socially in dry nearly level ground, into which they burrowed several feet. This was in the island of Marinduque in May 1888. *M. philippinus* is solitary in habit, and feeds near the ground in open country, where it perches on posts and on bushes. Its food, so far as observed, was wasps and dragonflies. It was not found nesting.

The species of the genus *Ceyx* were found to vary greatly in their localities. There were the woodland Ceyxes, *Ceyx melanura* and its allies, always found away from the streams and in the forests, and the river Ceyxes, *C. cyanopectus* and *C. argentata*, as universally found along the streams.

Three species of so-called *Halcyon* were found generally distributed over the islands together. These were:—*H. gularis* (*Entomobia*); *H. coromanda* (*Callialcyon*); and *H. chloris* (*Sauropatis*). None of these frequented the water:

H. gularis being found in open plains feeding from the ground, or perched in low trees; *H. coromanda* in low thick undergrowth in forests; and *H. chloris* usually near the sea-beach and often in open coco-groves about the coast villages.

The maroon-backed *Osmotreron* is arboreal, feeding in the high trees in flocks. *Osmotreron vernans*, on the other hand, inhabits thickets, where it feeds from the bushes or the ground, and is found singly or in pairs.

There remain 5 genera and 10 species in which two species of the same genus were found existing together in the same islands, these not differing enough to appear to warrant placing them in distinct sections of the genus. These genera, with the number of species of each found in the islands, are the following (List E) :—

Melanopitta 2.

Criniger 2.

Megalurus 2.

Cisticola 2.

Tanygnathus 2.

Even here there seems to be no case in which the two species of the same genus found existing together are so closely allied that they may be supposed to have been derived from a common form in the area in which they now occur. They usually differ considerably in size or colouring, and in the case of *Cisticola* and *Megalurus*, the only genera in which both of a pair of species were observed, there was a sharp distinction of habitat noticed. *Cisticola exilis* inhabited the low, open, level rice-fields of Luzon, and *C. cisticola* the wooded hills. *Megalurus ruficeps*, where it occurred with *M. palustris*, was found inland in waste places which had become overgrown with coarse grass, while *M. palustris* was found close along the beach in open grassy places.

The relative abundance of the two species is worth noting in the case of *Melanopitta* and *Tanygnathus*. *Melanopitta sordida* is the common form found everywhere and always abundant, while of *M. steerii* our party procured but one specimen in Mindanao in a six weeks' stay, and another in Samar. *Tanygnathus luconensis*, again, is the common form found everywhere abundantly, while but a single specimen of *T. everetti* was ever seen. Our collections seem to show that

Melanopitta sordida occurs alone through most of the islands, but with *M. steerii* in Mindanao and Samar; also that the large *Megalurus palustris* alone occupies the northern and western islands, the smaller *M. ruficeps* the central islands, while the two species inhabit Marinduque together.

It seems probable that *Melanopitta* and *Tanygnathus* are cases in which two species of a genus, after having originated in different areas, have been brought together when differing just too much to fuse, while they still remain almost identical in habits and food, and so are brought into such conflict that the weaker species is disappearing.

Putting lists B and C together, there are 128 genera out of 151, and 228 species out of 316, in which each genus is represented by only a single species in a locality. This is about thirteen fifteenths of the whole number of genera and five sevenths of the whole number of species—altogether too great a proportion of both to have no significance.

If to lists B and C we add list D, there result 145 genera out of 151, and 305 species out of 316, or twenty-nine in every thirty of the genera and over thirty in every thirty-one of the species, so distributed in the islands that no two species nearly enough allied to be put in the same section or subgenus are found existing in the same island.

These three lists teach the same law of distribution, and the difficulty in formulating it lies not in the facts but in the necessary imperfection of the terms used in measuring the values of the various natural groups of animals. The fact that these natural groups differ in value indefinitely makes it for ever impossible to so measure them by the fixed rule of species and genus that all men shall agree to the results.

The law of distribution of non-migratory land-birds of the Philippines may be stated as follows:—

Every genus is represented by only a single species in one place.

Or, in more general terms, as follows:—

No two species structurally adapted to the same conditions will occupy the same area.

The varieties or subspecies of birds in the Philippines, wherever observed, follow the same law of distribution as the

species, the varieties of a species, if any, each existing in neighbouring but distinct areas. The Great Bronzed Pigeon, *Carpophaga aenea*, has the bronzed shading of the back much deeper in the specimens from Basilan than in those from the central and northern islands, while those from Paragua have the wings much bluer in colour. The Red Woodpecker, *Chrysocolaptes xanthocephalus*, from the central islands, has more red on the throat in the specimens from Masbate than in those from Panay and Negros. The Cockatoo and Racquet-tailed Parrot of Mindanao are decidedly smaller than individuals of the same species in the other islands. Other examples of the same kind are numerous, and there appears to be a tendency in every species to form as many varieties as it inhabits distinct islands with separating sea-channels broad enough to make the passage over difficult and infrequent.

These facts make it evident that Philippine species and varieties are geographical or local groups depending upon local causes for their existence. They show *isolation* to be the first and the necessary step in the formation of species.

The foregoing facts render the belief in the fusion of closely allied species, when thrown together, almost necessary. The volcanic character of the islands and the shallow seas separating them, with the observed marks of frequent changes of sea-level, compel us to believe that the land-areas of the Philippines have been continually varying, and that, in multitudes of cases, closely allied species have been thrown together by the connection of islands formerly distinct. These closely allied species now no longer existing together, they must have disappeared either by the destruction of one or by their fusion. To one who has observed the likeness in size and colouring and notes and food of these allied forms, the latter is the only reasonable hypothesis for the greater number of cases.

A satisfactory explanation of many or most of the phenomena of distribution of genera and species in larger and in continental areas may be found, perhaps, by giving the same prominence to isolation and fusion in the formation of the species occupying them.

XXXVII.—*Bornean Notes*: No. II.* By R. BOWDLER SHARPE, LL.D., F.L.S., &c.VIII. *Additional List of Birds from Mt. Kalulong.*

SINCE his return to Sarawak, Mr. Hose has had little time to spare from his official duties to devote to natural history, but his collectors have procured a few more birds from Mt. Kalulong.

The following is a list of the species obtained, which are not mentioned in my former list:—

- Cittocinclla suavis*. 2000 to 4000 feet.
- Henicurus borneensis*. 3000 feet.
- Eupetes macrocerus*. 4000 feet.
- Orthnocichla whiteheadi*. 2000 feet.
- Microtarsus melanocephalus*.
- Criniger phaeocephalus*. 2000 feet.
- Tricholestes criniger*. 3000 to 4000 feet.
- Ægithina viridis*. 2000 feet.
- Chloropsis kinabaluensis*. 3000 feet.
- Oriolus hosii*. 5000 feet.
- Chibia borneensis*. 3000 feet.
- Erythromyias muelleri*. 4000 feet.
- Xanthopygia narcissina*. 5000 feet.
- Culicicapa ceylonensis*. 3000 feet.
- Siphia elegans*. 3000 feet.
- *turcosa*. 3000 feet.
- Dicaeum monticola*. 5000 feet.
- Platysmurus aterrimus*. 2000 feet.
- Pitta cyanoptera*. 3000 feet.
- Gecinys puniceus*. 2000 feet.
- Thriponax javensis*. 2000 feet.
- Harpactes vidua*.
- *dulitensis*.
- Cyanops monticola*. 2000 feet.
- Rhopodytes sumatrana*. 2000 feet.
- Psittacus incertus*. 2000 feet.
- Treron olax*. 3000 feet.
- *baramensis*. 1500 to 2000 feet.

ORTHNOCICHLA WHITEHEADI.

Orthnocichla whiteheadi, Sharpe, Ibis, 1888, p. 200; Everett, J. As. Soc. Straits Branch, 1889, p. 111.

* Cf. Ibis, 1893, pp. 546-563.

The specimen now sent by Mr. Hose is evidently a young bird of this rare species. It is of a pale sulphur-yellow below, with dusky spots on the fore neck; the sides of the body are also washed with olive greenish.

HARPACTES VIDUA.

Harpactes vidua, Ogilvie Grant, Cat. B. Brit. Mus. xvii. p. 501.

This species was described from a female bird procured on Mt. Dulit by Mr. Hose. A second specimen, also a female, was obtained by Mr. Whitehead on Mt. Kina Balu. Mr. Ogilvie Grant came to the conclusion that these hen birds belonged to an undescribed species near to *H. orrhophæus*, and the discovery of the male bird confirms the correctness of his identification. It differs, in fact, from the male of the latter bird just in the same way as the females of the two species differ, viz. in the wide and coarser vermiculations on the wings. Like the male of *H. orrhophæus*, the rump is reddish brown, not scarlet, as in *H. duvauceli*.

IX. On the Generic Name *Micropus*.

Mr. Wigglesworth's letter (above, p. 318) is very instructive, and if the generic name *Micropus* is to be retained for the Swifts, as suggested by Mr. Ernst Hartert, then it must be abandoned for the Bulbuls, and *Microtarsus* substituted. Thus *Microtarsus* would include *M. melanocephalus*, *M. fusciflavescens*, *M. cinereiventris*, *M. phaeocephalus*, *M. chalconcephalus*, and *M. melanocephalus*. It has, however, been the custom among English ornithologists to reject names previously used in botany; and if this rule is followed, *Micropus* would fail for both Swifts and Bulbuls, and *Cypselus* should be used for the former genus, and *Microtarsus* for the latter.

XXXVIII.—Note on some newly-discovered Eggs of the Great Auk. By EDWARD BIDWELL.

AT the disposal by auction of the contents of the Little Hermitage near Rochester, on the 14th of March last, one

of the lots, which was described as "a collection of shells and fossils," was purchased for 36 shillings by Mr. Wallace Hewett, of Newington, Kent, who, previous to the sale, in looking at the fossils, had recognized an egg of the Great Auk lying amongst them. After the auction, upon obtaining possession of his purchase, he was surprised at finding a second egg of this bird at the bottom of the box. To make assurance doubly sure, Mr. Hewett took these two eggs to the Natural History Museum and submitted them to Dr. Bowdler Sharpe, who confirmed his identification and very kindly sent him on to me. From the dirty condition of the eggs it was quite certain that they had been neglected for many years. The smaller one had a hole in one side, the edges of which were as dirty as the rest of the egg, showing it to have been an old injury. Both had recent fractures, which was hardly to be wondered at, considering their rough treatment.

The larger egg, which measures $4\frac{1}{2} \times 2\frac{1}{2}$ inches, is a very beautiful specimen—a creamy-white shell of fine texture, streaked and blotched, especially at the smaller end, with rich red-brown.

The smaller egg, measuring $4\frac{6}{10} \times 2\frac{1}{2}$ inches, has a very rough texture, the markings being chiefly shell-spots.

I regret to say that I have been unable to trace the history of these eggs previous to the sale of March 14th. They were again sold by Mr. Stevens at his King Street Auction Rooms on April the 24th. The larger one was purchased by Mr. Herbert Massey for 260 guineas, and the smaller by Mr. H. Munt for 175 guineas.

During the last 14 years six eggs of the Great Auk have been discovered, but as three of these, and three others formerly in private hands, have been presented to public institutions, the number in private hands has not increased.

Of the recorded specimens, fifty are in Great Britain, ten in France, three in Germany, one each in Denmark, Portugal, and Switzerland, and two in the United States.

XXXIX.—*Bulletin of the British Ornithologists' Club.*

Nos. XVI.—XVIII.

No. XVI. (March 30th, 1894.)

THE fifteenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, March 21st, 1894.

Chairman: P. L. SCLATER, F.R.S.

Members present:—E. BIDWELL, WALTER CHAMBERLAIN, S. R. CLARKE, PHILIP CROWLEY, W. E. DE WINTON, C. H. CATON HAIGH, F. MENTEITH OGILVIE, H. J. PEARSON, T. DIGBY PIGOTT, C.B., HOWARD SAUNDERS, HENRY SEEBOHM, R. BOWDLER SHARPE.

Visitor: DR. F. A. JENTINK (Leyden).

MR. W. R. OGILVIE GRANT sent for exhibition a skin of a Babbling-Thrush, with the following observations:—

“In looking through a collection of birds made by Mr. L. A. Waddell, F.L.S., in Sikhim, I find a specimen of a new species of *Garrulax*, which I propose to call after its discoverer,

“*GARRULAX WADDELLI*, sp. nov.

“Like *G. pectoralis*, but with the rufous collar almost obsolete; the superciliary stripe grey, not white; ear-coverts pale buff with blackish shaft-stripes, instead of black, or black streaked with white, and the tail rather narrowly tipped with ashy, whereas in *G. pectoralis* it is broadly tipped with white.

“*Hab.* Rungeet (Rangit) River, Sikhim, 4000 feet.

“This specimen—an adult female, obtained in April 1891—will come into Dr. Sharpe’s ‘Key’ (see Cat. B. vii. p. 434) after *G. albigularis*, which has the hind neck uniform with the back; but the words of the ‘Key’ should be modified to ‘uniform or nearly uniform.’ The differences between the new species and *G. albigularis* are of course obvious, the latter having no black pectoral band.”

MR. SCLATER exhibited the skin of a Hemipode, forwarded

to him by Mr. H. H. Johnston, C.B., being the first example of this family obtained in Nyasaland. It was shot on the plateau near Zomba, in December last. Mr. Ogilvie-Grant had determined it as *Turnix nana* (cf. Cat. B. Brit. Mus. xxii. p. 541) of Natal and Cape Colony.

Dr. BOWDLER SHARPE read a paper on the geographical distribution of the Little Bitterns (*Ardetta*), of which he recognized nine species.

1. ARDETTA MINUTA (L.).

Hab. Central and Southern Europe below 60° N. lat., the countries of the Mediterranean, eastward to Central Asia, Cashmere, and wintering in the plains of N.W. India to 80° E. long. N.E. Africa in winter, and said to have occurred in East and West Africa.

2. ARDETTA PODICIPES (Bp.).

Representing *A. minuta* in Africa and Madagascar, and appears to be generally distributed south of 15° N. lat.

3. ARDETTA SINENSIS.

Hab. From N. China and the Japanese islands throughout China to the Burmese countries, the peninsula of India, and Ceylon, breeding in all these countries. It is also found, apparently as a winter visitant, in the Malay Peninsula and Archipelago to New Guinea and New Britain. The British Museum contains two specimens from Australia. The species is likewise found in the Seychelles, a very interesting fact when taken into consideration with the distribution of *Butorides javanica* in the Mascarene Islands (see above, p. 295).

4. ARDETTA EXILIS (Gm.).

Hab. North America generally, up to the Great Lakes; south to Texas, Florida, California, Guatemala, and the Greater Antilles. *Ardetta neoxena* of Cory seems to be founded on very old individuals of *A. exilis*, in which the rufous tips to the quills and the light stripes on the back have disappeared with age or wear.

5. ARDETTA ERYTHROMELAS (V.).

Hab. Represents *A. exilis* in South America from Panama

to British Guiana and Trinidad, and thence south to Paraguay and Southern Brazil. It also extends to Peru.

6. ARDETTA PUSILLA (V.).

Hab. Closely allied to *A. exilis* of N. America. Confined to Australia and New Zealand.

7. ARDETTA EURYTHMA.

Hab. From North-eastern Siberia and Amurland, extending through all the Japanese islands to China, apparently breeding on the Yangtze, occurring in winter in Cochin China and Borneo.

8. ARDETTA INVOLUCRIS.

Hab. Chili to Paraguay, Southern Brazil, and Northern Patagonia. Recorded from Peru, but erroneously, as the species from that country is *A. erythromelas*.

9. ARDETTA CINNAMOMEA.

Hab. From Amoorland to China and Formosa, not occurring in any of the Japanese islands, but throughout the Indian Peninsula and Ceylon, the Malayan Peninsula and islands to the Philippines and Celebes.

Dr. SHARPE next drew attention to the distribution of some species of the genus *Nycticorax*, especially to that of the true Night-Herons. Between *N. naevius* of North America and the ordinary *N. nycticorax* of Europe he was unable to find any specific difference, and therefore the range of this species appeared to be bounded by about 50° N. lat. in both hemispheres, and beyond that line it could only be considered an accidental visitor. Wherever suitable localities existed, the Night-Heron bred, so that it was equally at home in South Africa as in Hungary, and to the east it occurred as far north as the Japanese islands and Peking, and as far south as Java and Celebes. In the Neotropical Region it was found in Guiana, Colombia, and Ecuador, and was probably the species which had been recorded from the Ucayali river in Upper Amazonia.

The distribution of the two other species of Night-Heron in South America was curious. *N. cyanocephalus*, Molina

(*N. obscurus*, auct.), was found in the Magellan Straits, northward to Central Chili. Its place was taken in Peru by another species, closely allied to *N. nycticorax*, which would have to bear the unwieldy name of *N. tayazu-guira* of Vieillot, founded on the "*Garza tayazu-guira*" of Azara. This species ranged from Peru to the province of Tarapacá in Northern Chili, through Bolivia to Southern Brazil and Argentina, and then re-occurred in the Falkland Islands, where *N. cyanocephalus* might have been expected.

Of the species of *Ardeirallus*, Dr. SHARPE characterized a new form as

ARDEIRALLUS NESOPHILUS, sp. n.

Similis *A. melæni*, sed abdomine schistaceo, gutture et præpectore paullulum rufescenti-brunneo marmoratis distinguendus. Long. tot. 22 poll., alæ 8·2.

Hab. in insulâ "Duke of York" dictâ.

The species of *Ardeirallus* are apparently four in number. *A. flavicollis*, which breeds in the Eastern Narra, Sind, occurs again in the Wynaad, Travancore, and Ceylon, and is widely distributed in Central and Southern China, west to India, and south to the Malayan countries to Java, Borneo, and Celebes. *A. gouldi* is confined to Australia and New Guinea. *A. melas* to the Molucca islands (Halmahéra, Batchian, Morotai, and Bourou), extending to the Sanghir group, and it is probably the species of Amboina. *A. neso-philus* appears to be confined to Duke of York Island and New Britain.

Dr. SHARPE then referred to *Ardea purpurea*, which was shown to consist of two distinct forms with a separate and distinct geographical distribution. The eastern form would have to bear the name of *Ardea manillensis* of Meyen—an unsatisfactory title, as the species is not confined to the Philippines, but is spread over the Indian Region from Sind to Ceylon and eastwards to the Burmese countries and Southern China, south to the Malayan Peninsula and islands, as far as Celebes. True *A. purpurea* inhabits Central and Southern Europe and Asia, as far east as Western Turkestan,

and extends its range south into suitable districts of Africa, as far as Cape Colony.

Mr. SCLATER called attention to the great inconvenience which would result to ornithological nomenclature by the enforcement of the "*Scomber scomber*" principle, and pointed out that it would cause the alteration of at least 26 names in the 'B.O.U. List of British Birds.' The Stricklandian Code (which was the first promulgated in modern times upon the strict rule of priority) said expressly (see Report, p. 10) that "specific names, when adopted as generic, must be changed." No conclusive reasons were shown in either the American or German Code for the alteration of this rule, and under these circumstances Mr. Sclater held that the Stricklandian Code should not be violated.

A short discussion followed; and it was announced that a debate on the subject would follow at a future meeting.

No. XVII. (April 30th, 1894.)

THE sixteenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 18th of April, 1894.

Chairman : HENRY SEEBOHM.

Members present :—E. G. BARRETT-HAMILTON, E. BIDWELL, PHILIP CROWLEY, W. E. DE WINTON, F. D. GODMAN, F.R.S., W. GRAHAM, Dr. EDWARD HAMILTON, EDWARD HARGITT, ERNST HARTERT, Major A. P. LOYD, T. J. MONK, P. W. MUNN, W. R. OGILVIE GRANT, H. J. PEARSON, F. PENROSE, T. DIGBY PIGOTT, C.B., Hon. WALTER ROTHSCHILD, OSBERT SALVIN, F.R.S., HOWARD SAUNDERS, R. BOWDLER SHARPE, C. B. WHARTON, JOHN YOUNG.

Visitors : Col. E. DELMÉ-RADCLIFFE, Mr. C. E. FAGAN, Dr. A. DONALDSON SMITH (Philadelphia), Mr. H. STEVENS.

Mr. E. BIDWELL exhibited two eggs of the Great Auk (*Alca impennis*), which had apparently never been recorded,

and which had been brought by the owner to the British Museum (Nat. Hist.) for identification in March last. One was a very handsome specimen, but the second was somewhat damaged: they had no history beyond the fact that they were purchased at a country sale amongst a lot of old "curios."

The Hon. WALTER ROTHSCHILD exhibited an egg of the Great Auk from his collection.

Mr. ROTHSCHILD likewise brought for exhibition some eggs of Queen Victoria's Rifle-bird (*Ptilorhis victoriae*), which had been obtained by Mr. Meek on the coast of Queensland, opposite to the Barnard Islands, where the species was first discovered.

Some skins and living specimens of *Apteryx* were also exhibited by Mr. ROTHSCHILD, who made the following remarks on the birds:—

"At the meeting of the Club held last June, when I read a paper on the known species of *Apteryx*, it appeared to me that several Members present were still far from satisfied that *Apteryx haasti* was really a species, and not a hybrid between *Apteryx australis* and *Apteryx oweni*.

"Since the meeting in June I have received some twenty-five more specimens of *Apteryx haasti*, making a series of sixty skins now in my possession, all of which show no variation whatever except in size.

"About three weeks ago I received four living specimens of an *Apteryx*, which were noticed, on their landing, to be very distinct. On careful examination I was at once struck by the presence of cross-bars on the plumage, as well as by the longitudinal stripes usually seen in the plumage of *Apteryx mantelli*. Further investigation, together with the fact that the plumage on none of the four examples is identical, clearly shows them to be hybrids between *Apteryx mantelli* and *Apteryx occidentalis*. It will thus be seen at a glance that, while all specimens of *Apteryx haasti* are regularly barred, the hybrids between barred forms and

striped forms of *Apteryx* show a mixed character of markings. We may therefore fairly deduce this fact, that, whatever else it may be, *Apteryx haasti* is certainly not a hybrid between *Apteryx australis* and *Apteryx oweni*."

Mr. E. HARTERT exhibited some skins of *Eupsychortyx*, and remarked that among a number of bird-skins from Venezuela, recently received at Mr. Walter Rothschild's Museum at Tring, were specimens of the *Eupsychortyx sonninii* from the plain of Valencia; while from Cumaná, on the north coast of Venezuela, there was an apparently new species, which he proposed to call

EUPSYPHORTYX MOCQUERYSI, sp. nov.

This is nearest to *E. sonninii* (Temm.), but differs from it in having the throat white all along the middle, most of the feathers showing distinct narrow cross-bars of black. The breast, instead of being pale vinaceous brown with fine black vermiculations and sparsely spotted with white, is of a peculiar vinaceous-cinnamon and quite uniform except on the lower part. This same colour extends—slightly brightened in tint—down the abdomen and sides of the body, where, however, it is varied by large white spots bordered with black. Length about 9 inches, wing 4·1 to 4·25, tail 2·6, tarsus 1·1, middle toe with claw 1·35.

Dr. BOWDLER SHARPE made some remarks on the classification of the Herons, with reference to the monographic papers of Dr. Reichenow (J. f. O. 1877, pp. 225–277) and Dr. Stejneger (Proc. U.S. Nat. Mus. x. pp. 271–319). The last-named naturalist had divided the *Ardeine* into two groups, Herons and Bitterns, the former having twelve tail-feathers and the latter ten. This Dr. Sharpe considered to be an excellent arrangement, and in the latter group he proposed to place the genera *Botaurus*, *Ardetta*, *Nannocnus*, *Ardeirallus*, and *Zebrilus*. All the specimens of the last genus in the British Museum possessed ten tail-feathers, though Dr. Reichenow had given the number as twelve.

To the group of Bitterns with ten tail-feathers Dr. Sharpe added two more genera, which he proposed to call

XANTHOCNUS, gen. nov.

This genus contains four species, viz.:—*X. flavicollis* (Lath.), *X. melas* (Salvad.), *X. gouldi* (Bp.), and *X. nesophilus* (Sharpe). (See above, p. 427.)

All these species have hitherto been placed in the genus *Ardeirallus*, the type of which is *A. sturmi* of Africa; but the genus *Xanthocnus* is distinguished by its long bill, which is equal in length to the middle toe and claw.

ERYTHROPHOYX, gen. nov.

This new genus contains two species hitherto placed in *Ardeirallus* (potius *Xanthocnus*), but distinguished from the species belonging to *Xanthocnus* by the long tarsus much exceeding the length of the middle toe and claw. The type of the genus is *E. woodfordi* (Grant), and a second species is *E. prætermissa* (Sharpe).

Among the groups of Herons with twelve tail-feathers Dr. Sharpe pointed out that *Phoyx*, a name proposed by Dr. Stejneger as a subgenus to include the Purple Herons, is really a very distinct genus, differing from all the others in the length of its middle toe and claw, which is equal to the tarsus in length; the claw of the hind toe is also very long, only slightly curved, and nearly equal to the hallux itself. Two species are known, *Phoyx purpurea* (L.) and *P. manillensis* (Meyen).

The slaty-black Heron of Africa, *Ardea calceolata*, Du Bus, seemed to belong to a genus distinct from *Herodias*, and certainly from *Demiegretta*, with which it had been placed by some writers. The bill was not so long as the middle toe and claw, and it therefore belonged to the shorter-billed group, containing *Florida* and *Herodias*. The name proposed for it was

MELANOPHOYX, gen. nov.

Similar to *Florida*, but with elongated plumes on the crest and breast; the ornamental plumes on the back not reaching beyond the tail.

Dr. Sharpe also proposed the name of

MESOPHOYX, gen. nov.,

for the bird generally called *Herodias intermedia*, which was intermediate between the genera *Ardea* and *Herodias*. From the former it differed in having no ornamental nape-plumes, and in the possession of an enormous pectoral and dorsal patch of ornamental plumes, the dorsal train reaching far beyond the tail. From *Herodias* it was distinguished by its serrated bill and the difference in style of the ornamental breeding-plumes.

The genus *Garzetta* differed from *Herodias* in its longer and slenderer bill, which exceeded the length of the middle toe and claw, the last-named genus being closely allied to *Ardea*. The American Egret differed from *Garzetta* in its enormous crest of decomposed plumes, which covered the whole crown and nape; it also lacked the elongated nape-plumes of *Garzetta*, while the breast-feathers were decomposed and not lanceolate. The name suggested was

LEUCOPHOYX, gen. nov. Type, *L. candidissima* (Gm.).

Another curious Heron, which could not be referred to any known genus, was the *Ardea rufiventris* of Sundevall, from South Africa. It belonged to the group of *Butorides* and *Ardeola*. From the former genus it differed in having a rounded wing, with the secondaries equal to the primaries, and the scapulars so much produced as to overhang the quills. From *Ardeola* it differed in having no ornamental nape-plumes, but a very dense neck-frill; it also wanted the dorsal train. The name proposed was

ERYTHOCNUS, gen. nov. Type, *E. rufiventris* (Sund.).

No. XVIII. (May 26th, 1894.)

THE seventeenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 16th of May, 1894.

Chairman : P. L. SCLATER, F.R.S.

Members present :—E. BIDWELL, W. T. BLANFORD, F.R.S., W. CHAMBERLAIN, E. HARTERT, A. P. LOYD, E. W. OATES, W. R. OGILVIE GRANT, F. PENROSE, R. H. READ, Hon. W. ROTHSCHILD, HOWARD SAUNDERS, H. SEEBOHM, R. BOWDLER SHARPE, G. E. SHELLEY, W. B. TEGETMEIER, A. TREVOR-BATTYE, H. M. UPCHER, C. J. WILSON.

Visitors : Capt. B. L. SCLATER, R.A., G. L. SCLATER, R.N., Dr. A. DONALDSON SMITH (Philadelphia).

Mr. E. W. OATES exhibited some skins of birds recently procured by him in the Shan States, amongst which was an apparently new species of *Ixulus*, which he proposed to call

IXULUS CLARKI, sp. n.

Similis *I. humili*, Hume, sed dorso cinereo nec brunneo, pileo saturatè umbrino, nec sicut in *I. humili* dorso concolore, maculâ argentescente ad latera colli positâ, distinguendus. Long. tot. 5 poll., alæ 2·45.

This species was named after Mr. C. C. S. Clark, who had greatly assisted Mr. Oates in his ornithological work on Mount Byingyi.

The Hon. WALTER ROTHSCHILD exhibited specimens of the extinct *Chaetoptila angustipluma* from Hawaii, *Loxops wolstenholmei* from Oahu, and also the adult male, female, and young male of *Drepanornis bruijnii*.

Mr. W. T. BLANFORD, F.R.S., made some remarks on the Owls of the Indian Region, with special reference to the following species :—*Strix de-roepstorffi* (not to be separated from *S. flammea*), *Carine pulchra* (to be united to *C. brama*), *Glaucidium radiatum* and *G. malabaricum* (not specifically distinct), *Ninox lugubris*, *N. burmanica*, and *N. scutulata* (to be united) ; *Scops modestus* (= *S. balli*), *S. lempiji*, *S. malabaricus*, *S. griseus* (= *S. bakhamena*), and *S. lettia* all belonging to one species ; *S. pennata* (= *S. giu*) and *S. sunia* also to be united ; and *S. nicobaricus* = *S. sunia*. The genus *Huhua*, he stated, should be kept distinct from *Bubo*.

Captain SHELLEY exhibited some specimens of African birds, amongst which were some new species, which he described as follows :—

1. PŒOPTERA KENRICKI, sp. n.

Brunnescenti-nigra, vix metallica, æneo paullulum adumbrata. Long. tot. 7·5 poll., alæ 4.

Hab. Usambara Mts. Type in Shelley collection.

2. ARTAMIA COMORENSIS.

Similis *A. bicolori*, sed major: suprâ concolor, saturatè cyanea, vix lilacino lavata. Long. tot. 6·5 poll., alæ 3·75.

Hab. Great Comoro Island (*Kirk*). Type in Shelley collection.

Captain SHELLEY further proposed the name of *Enneoctonus reichenovi*, as an emended title for *Lanius affinis*, Reichenow, J. f. O. 1884, p. 261 (nec Legge, Str. F. 1876, p. 243).

He also made some remarks on *Malaconotus poliocephalus*, of which he recognized three races, which had been mixed up by Dr. Gadow in the 'Catalogue of Birds.' These were, according to Captain Shelley, *M. poliocephalus* (Licht.), from Western and North-eastern Africa, *M. blanchoti* (Steph.), from Zanzibar to Algoa Bay, and *M. approximans* (Cab.), from the Pangani River to Shoa. The species called by Dr. Gadow *Laniarius hypopyrrhus* was not really Hartlaub's species of that name, and Capt. Shelley proposed the name of *Malaconotus gabonensis* for it (= *L. hypopyrrhus*, Gadow, nec Hartl.).

While speaking of the African Shrikes Capt. Shelley pointed out that *Telephonus anchietæ*, Bocage, and *T. minutus*, Hartl., were not true members of the genus *Telephonus*, as the sexes differed remarkably, the female being distinguished by a broad white eyebrow, whereas in *Telephonus* both male and female were alike. The bill was also shorter and stouter than in the last-named genus. He therefore proposed to separate the two species above mentioned under a new generic heading as—

BOCAGIA, gen. nov.

Types, *B. minuta* (Hartl.) and *B. anchietæ* (Bocage).

PROFESSOR BARBOZA DU BOCAGE sent for exhibition the skin of an apparently new species of *Bradyornis*, which he had received from Galanga in Angola. He proposed to call it

BRADYORNIS SHARPI, sp. n.

Similis *B. boehmi*, Reichenow, sed rostro nigro, mandibulâ laud flavidâ, et pileo chocolatino concolore, nec griseo : fasciâ cervicali grisescente nullâ. Long. tot. 5·6 poll., alæ 3·2.

DR. BOWDLER SHARPE laid upon the table the first two livraisons of Fatio and Studer's 'Catalogue des Oiseaux de la Suisse,' and pointed out the useful work that could be done by any English ornithologist who devoted himself to working out the ranges of British Birds in the same manner as had been done by these Swiss naturalists. The maps showing the distribution of each species in Switzerland formed a distinct feature, which, Dr. Sharpe believed, could be introduced with advantage in a general work on the geographical distribution of British Birds.

XL.—*Notices of recent Ornithological Publications.*

50. *Büttikofer on Birds from Celebes, Saleyer, and Flores.*

[Ornithologische Sammlungen aus Celebes, Saleyer und Flores. Von J. Büttikofer. Zool. Ergebnisse einer Reise in Nederl. Ost-Indien, Band iii. p. 269.]

In this article Mr. Büttikofer gives an account of the birds collected by Prof. Weber during his East-Indian journey in 1888 and 1889, and deposited in the Leyden Museum. They come mostly from the islands of Celebes, Saleyer, and Flores. In Celebes examples of 97 species were obtained, of which two are new to the Celebean avifauna. In Saleyer, an island south of Celebes, not previously visited by any naturalist, 22 specimens of birds were collected, which are referred to 14 species. These are mostly of Celebean origin, but Saleyer has also some connection, not with Flores, as might have been expected, but with the Timor group, as

shown by the presence of such species as *Pachycephala orphea* and *Lalage timoriensis*.

On Flores 131 specimens of birds were obtained, which are referred to 60 species, of which 4 are described as new—namely, *Psittuteles weberi*, *Terpsiphone floris*, *Acmorhynchus anne*, and *Corvus florensis*. The first three of these are figured, together with *Psittuteles euteles*, for comparison.

51. Chapman on the Birds of Trinidad.

[On the Birds of the Island of Trinidad. By Frank M. Chapman. Bull. Amer. Mus. Nat. Hist. vi. p. 1.]

Mr. Frank M. Chapman paid a short visit to Trinidad last year, and now gives us a good account of the ornithological results of his expedition, together with a complete disquisition on the avifauna of the island. Mr. Chapman reached Port of Spain on February 21, 1893, and, after a short excursion by sea to San Fernando, went by rail to Princetown, and took up his quarters at Indian Rest-house, a solitary Government Station seven miles further to the south-west, at the border of the primeval forest, which extends thence to the southern shore of the island. The locality selected was excellent for birds, there being cacao-groves in various stages of cultivation on one side and a tropical forest on the other.

Mr. Chapman stopped two months at the Rest-house, making one excursion to Moruga, on the south shore of the island, where, however, sea-birds were very scarce. Returning to Port of Spain, he visited Monos Island to explore the Guácharo caves before departing northwards.

Trinidad, as all naturalists know, has physically nothing to do with the West Indies, but is a mere fragment of Venezuela. It has, nevertheless, been separated long enough to have a few species and subspecies of birds peculiar to it and the adjoining islet of Tobago. So far as is known, these are 12 in number, but some of them may still turn up in Venezuela. An analysis of the 199 resident land-birds shows, as might have been expected, that the island belongs to the Colombian rather than to the Amazonian Subregion.

After a bibliography of the Trinidad avifauna Mr. Chapman proceeds to tell us of his own experiences. During his sojourn he identified 136 land-birds and 15 water-birds, together 151, of which 5 were new to the ornis of Trinidad, and 2 of these (*Chlorospingus leotaudi* and *Basileuterus vermivorus olivascens*) are described as new to science. Mr. Chapman's general remarks on Trinidad bird-life which follow are of great interest. Few North-American migrants visit the island, except 4 species of Ducks, a Rail, and 29 Waders and Water-birds. In all, there are only 10 land-birds that occur on migration. We have also remarks on songs, nesting, and colours, which will attract the general reader.

The list of Trinidad birds which concludes this useful memoir enumerates 306 species. It is based mainly on the author's own observations and those of Léotaud and Taylor ('Ibis,' 1864, p. 73). Léotaud's collection has been preserved, and is on view at the Victoria Institute, Port of Spain, where Mr. Chapman made a careful examination of it.

52. *Clarke on the Persecution of the Great Skua.*

[The Persecution of the Great Skua (*Stercorarius catarrhactes*). By Wm. Eagle Clarke, F.L.S. Ann. Scottish Nat. Hist. 1894, p. 8.]

Mr. Eagle Clarke calls attention to the bad treatment of the Great Skua during the past three years. In 1890 and 1891 the Foula colony, now the largest in Europe, suffered so severely through egg-taking that practically no young birds were produced. In 1893 matters appear to have been little better. As regards the Færoes, Col. Feilden gives the results of his observations, and comes to the conclusion that the ultimate extinction of the Great Skua as a breeding-bird in these islands cannot long be delayed.

53. *Collett's Contributions to the Norwegian Arifauna.*

[Mindre Meddelelser vedrorende Norges Fuglefauna i Aarene 1881-1892. Af R. Collett. Christiania, 1893-4. 1 vol. 388 pp.]

Prof. Collett's third series of "small contributions" to our knowledge of the birds of Norway, of which he has kindly sent us a copy as the sheets have been printed off, is

now complete, and contains a set of notes which will be of the greatest interest to British ornithologists. They give us in systematic form a summary of the results obtained during the last twelve years' study of his native avifauna by one of the leading naturalists of Scandinavia, who has devoted himself specially to this subject.

The first series of Prof. Collett's "Contributions," published in 1876, contained notices of 252 Norwegian birds; in the second series (1880) the number was increased to 256. Since 1880 the energetic work of the author and his coadjutors has added 23 more species to the avifauna of Norway, which (two species having been excluded) is now reckoned to contain 277 species. Of these, of course, nearly all are included in the British List, some very interesting exceptions (such as *Phylloscopus borealis*) coming in from the east. A general index to the three series of "Contributions" is appended to the present volume, which, like its predecessors, is reprinted from the 'Nyt Mag. f. Naturv.' of Christiania.

54. *Elliot's 'Monograph of the Pittidæ.'*

[A Monograph of the *Pittidæ*, or Family of Ant-Thrushes. By D. G. Elliot, F.R.S.E., &c. Second edition, revised and enlarged. Part III. Folio. London, 1894. Quaritch.]

The following species are described and figured in Mr. Elliot's third part:—

<i>Eucichla guaiana.</i>	<i>Pitta nepalensis</i> (male).
<i>Pitta loræ.</i>	—— <i>nepalensis</i> (female and young).
—— <i>steerii.</i>	—— <i>kocki.</i>
—— <i>concinna.</i>	—— <i>celebensis.</i>
—— <i>rubrinucha.</i>	

We need hardly say that we are not prepared to follow the author in calling *Eucichla cyanura* by the barbarous name he has attributed to it. According to the Stricklandian Code, names implying incorrect localities are to be rejected. *Pitta "kocki"* is a mistake for *kochi*, having been named after Dr. Koch, the Director of the Darmstadt Museum, as is shown by Dr. Brüggemann's original description. We are glad to see the beautiful *Pitta loræ* now figured for the first time.

55. *Lansdell on Birds from Central Asia.*

[Chinese Central Asia, a ride to Little Tibet. By Henry Lansdell, D.D. 2 vols. London, 1893.]

Dr. Lansdell, the well-known "pioneer of missionary enterprise" in Central Asia, did not neglect the opportunities of collecting specimens of Natural History which he met with during his journey through Chinese Turkestan in 1888. In "districts little known to Science" 295 specimens of birds and a number of reptiles, fishes, and insects were collected. The birds were determined by Mr. Dresser, and are specified in an Appendix; they are referred to about 70 species, of which the exact dates and localities are given. Several passages about birds also occur in Dr. Lansdell's interesting narrative, from which we cull the following notice of the habits of *Podoces* (vol. i. p. 392):—

"Those we saw were always in the desert and sandy places, but I think not always in pairs, as Henderson observed near Sanju. They moved about from one sand-hill to another, and impressed themselves on my memory by the speed at which they ran. They were slow to rise on the wing, but would lead me a chase for hundreds of yards, and generally succeeded in keeping out of range till I shot my first not far from Chadir-Kul. Mr. Shaw, it seems, found them good eating. I did not try them, but my men, regarding the capture as a prize, said that its liver, I think, was used by them as medicine. The only *Podoces* in my collection that reached England was determined as that of Biddulph (*P. biddulphi*)."

56. *Mathew on the Birds of Somerset.*

[A Revised List of the Birds of Somerset. By the Rev. Murray A. Mathew, M.A., F.L.S. Reprinted from the Proc. Somerset Archæol. and Nat. Hist. Soc. xxxix. 1893.]

The late Mr. Cecil Smith's 'Birds of Somerset' was admirably designed to foster a taste for ornithology among the sportsmen (and there are many) of that interesting county, and it is to be regretted that the author did not live to bring out a second edition of the work originally published

in 1869. Before his death he had, however, added 10 species to the 217 therein enumerated, and this number has been further increased by Mr. Mathew. Considering the position and natural features of this large county, it is perhaps strange that the grand total (inclusive of 4 domesticated Anatidæ) should not exceed 263 species; but some of these are of classic importance—for instance, the first “British” Black Stork and Egyptian Vulture; while the first authenticated occurrence of the breeding of the Marsh-Warbler in England was near Taunton. The arrangement of this useful List is excellent, and attention is invited to those points upon which further information is much to be desired.

57. *Meyer on new East-Indian Birds.*

[Beschreibung einiger neuen Vögel aus dem Ostindischen Archipel. Von A. B. Meyer. J. f. O. 1894, p. 89.]

Dr. A. B. Meyer describes as new *Hieracidea novæ-guinææ*, as distinct from *H. orientalis*; *Terpsiphone sumbaensis*, from Sumba Island; *Rhectes ferrugineus clarus*, from Eastern New Guinea; *Dicaeum flaviventer*, from Cebu, Philippines; and *Ptilotis flavirictus orientalis*, from S.E. New Guinea. He also gives notes on other species.

58. *Milne-Edwards on the extinct Birds of the Mascarene Islands and Madagascar.*

[Recherches sur la Faune ornithologique éteinte des Iles Mascareignes et de Madagascar. Par M. Alph. Milne-Edwards. 4to. Paris, 1866-73.]

M. Milne-Edwards has reprinted the various excellent memoirs on the fossil birds of Mauritius, Rodriguez, and Madagascar which he has contributed, since 1866, to the ‘Annales des Sciences Naturelles.’ They form a handsome quarto volume, very fully illustrated, which will be most useful to ornithologists who are so fortunate as to possess it.

59. *Milne-Edwards and Oustalet on recently extinct Birds.*

[Notice sur quelques espèces d'Oiseaux actuellement éteintes qui se trouvent représentées dans les collections du Muséum d'Histoire Naturelle. Par M. A. Milne-Edwards et M. E. Oustalet. (Extrait du Vol. Commémoratif du Centenaire de la Fondation du Mus. d'Hist. Nat. 1893.)]

The volume which has been published in commemoration of the centenary of the foundation of the Natural History Museum of Paris contains a memoir by MM. Milne-Edwards and Oustalet on some species of birds, recently extinct, which are represented in that famous Collection. The excellent figures of these birds, by Keulemans, are accompanied by full letterpress, and represent the following species:—*Mascarinus duboisi* and *Fregilupus varius* of the Island of Bourbon, *Electrænas nitidissima* of Mauritius, *Camptolæmus labradorius* of Labrador, and *Dromæus ater* of Kangaroo Island, South Australia. Particulars are also given respecting the specimens of *Alca impennis* and its eggs in the Paris Museum.

60. Nelson and Palmer on new Birds from Mexico.

[Descriptions of five new Birds from Mexico. By E. W. Nelson and T. S. Palmer. 'The Auk,' xi. p. 39.]

Messrs. Nelson and Palmer describe as new *Megascops pinosus* from Vera Cruz, *M. ridgwayi* from Michoacan, *Glauucidium fischeri* from Puebla, *Aimophila* (ser. *Hæmophila*) *rufescens pallida* from Jalisco, and *Sitta carolinensis mexicana* from Puebla.

61. Oustalet on *Drepanornis bruijni*.

[Notice sur le *Drepanornis bruijni* (Oust.). Par M. E. Oustalet. Nouv. Arch. du Mus. sér. 3, Mém. v. p. 295.]

M. Oustalet maintains the indubitable claims of his *Drepanornis bruijni* to full specific rank, and gives a good figure of the adult male. The exact *patria* of this remarkable form appears to be the north coast of New Guinea, between the Bay of Geelvink and Humboldt Bay.

62. Oustalet on new Birds in the Paris Collection.

[Notice sur quelques Espèces nouvelles ou peu connus de la Collection Ornithologique du Muséum d'Histoire Naturelle. Par E. Oustalet. Nouv. Arch. du Mus. sér. 3, Mém. iv. p. 211.]

M. Oustalet now describes and figures some new or little-known birds recently acquired by the French National Col-

lection. *Halcyon (Cyanalcyon) quadricolor* from New Guinea is figured. *Ampelis maesi* of Japan, *Elminia schwebischii* of French Congo, and *Anæretes sclateri*, supposed to be from Chili, are described as new. *Craspedophora mantoui*, based on a specimen obtained from a dealer and already described ('Le Naturaliste,' 1891, p. 260), is figured.

63. Ridgway on the Genus *Formicarius*.

[A Revision of the Genus *Formicarius*, Boddaert. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 667.]

Mr. Ridgway has brought together a series of about 60 specimens of Ant-Thrushes of the genus *Formicarius*, and now gives us the result of his careful study of them. He recognizes altogether 12 species, amongst which we find three now distinguished for the first time:—" *F. nigricapillus*, Cherrie," from Costa Rica (hitherto confounded with *F. analis*); *F. saturatus*, from Trinidad and Venezuela; and *F. umbrosus*, from the Atlantic slope of Costa Rica and Nicaragua.

64. Ridgway on a new Storm-Petrel.

[Description of a new Storm-Petrel from the Coast of Western Mexico. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 687.]

Mr. Ridgway has been convinced, by the examination of a series of nine well-prepared skins collected by Mr. C. H. Townsend off Guaymas and Acapulco, that the Mexican Petrel, hitherto referred to *Thalassidroma melania*, Bp., cannot be of that species. He therefore names it *Oceanodroma townsendi*.

65. Sharpe's 'Monograph of the Paradiseidæ.'

[Monograph of the *Paradiseidæ*, or Birds of Paradise, and *Ptilonorhynchidæ*, or Bower-Birds. By R. Bowdler Sharpe, LL.D., F.L.S., &c. Part III. Folio. London: H. Sotheran & Co., 1894.]

Dr. Bowdler Sharpe's third part of his monograph of the Paradise-birds contains excellent figures of some very remarkable species, which will delight the eyes of every ornithologist. *Astrarchia stephanie*, *Manucodia comrii*, and

Amblyornis subalaris are, in various ways, among the most wonderful and attractive objects nature has produced.

We are glad to see Dr. Sharpe has agreed to our views in considering the names *Paradisea wilsoni* and *Lophorina respublica* as synonymous, but we think that the latter name, even if certainly prior in date, should be cancelled altogether, the characters assigned to the term by Bonaparte being quite unrecognizable and misleading.

The following species are figured :—

<i>Ptilorhis victoriæ.</i>	<i>Manucodia comrii.</i>
<i>Epimachus speciosus.</i>	<i>Phonygama purpureo-violacea.</i>
<i>Astrarchia stephaniæ.</i>	<i>Ælurædus viridis.</i>
<i>Paradisea augustæ-victoriæ.</i>	<i>Chlamydodera occipitalis.</i>
<i>Schlegelia respublica.</i>	<i>Amblyornis subalaris.</i>

66. *Sharpe on the Fulicariæ and Alektorides.*

[Catalogue of the Fulicariæ (Rallidæ and Heliornithidæ) and Alektorides (Aramidæ, Eurypygidæ, Mesitidæ, Rhinocetidæ, Gruidæ, Psophiidæ, and Otididæ) in the Collection of the British Museum. By R. Bowdler Sharpe. London, 1894.]

The Rails, Cranes, Bustards, and their allied forms constitute the subject of the twenty-third volume of the Catalogue of Birds, which we are much pleased to see before us. Following very nearly the arrangement proposed for these birds by the Editor of 'The Ibis' (*op. cit.* 1880, p. 408), Dr. Bowdler Sharpe locates them in two Orders—Fulicariæ and Alektorides. In the former are placed the two families Rallidæ and Heliornithidæ, in the latter the seven families Aramidæ, Eurypygidæ, Mesitidæ, Rhinocetidæ, Gruidæ, Psophiidæ, and Otididæ. To these, in our opinion, should be added the Cariamidæ, which Dr. Sharpe has catalogued among the Falconidæ (Cat. Birds, i. p. 42). These nine families are represented in the National Collection by 2947 specimens, which are referred to 252 species, 29 of these being considered as only of subspecific rank. Besides these a number of fossil species are mentioned in what are believed to be their proper places.

The great family Rallidæ, which heads the volume with

187 species, is divided into 59 genera. It was, no doubt, necessary to bring the generic forms more nearly into parallel ranks, but such a serious increase of generic terms as is here adopted makes a severe tax on the ornithologist's memory. We observe, with some concern, that all the names used here for the British Crakes differ from those adopted in the B. O. U. List.

We say—

Porzana maruetta.
 — bailloni.
 — parva.
 Crex pratensis.

Dr. S. says—

Porzana porzana.
 — intermedia.
 Zapornia parva.
 Crex crex.

Dr. Sharpe having committed himself to the "*Scomberscomber*" principle, we cannot complain of him for carrying it through. But the change of name of Baillon's Crake seems to us to be entirely uncalled for. No man on earth could decide *positively* what Hermann's *Rallus intermedius* (Obs. Zool. i. p. 198) may have been. The name should therefore be passed over, as it has been by all prior systematists, as "uncertain." It would also, as we believe, "pass the wit of man" to discover generic characters to separate the two little Crakes, which have been constantly confounded together. We therefore prefer to adhere to the nomenclature of the B. O. U. List.

The Cranes and Bustards constitute the great bulk of the Alcedorides. Dr. Sharpe catalogues 19 species of the former and 30 of the latter family. The Cranes, at any rate in a living state, are birds familiar to us for many years. But we are unable to see any good reason for dividing generically *Limnogeranus*, *Sarcogeranus*, *Antigone*, and *Pseudogeranus* from *Grus*, though the characters given by Dr. Sharpe may well serve to distinguish the groups of species. *Bugeranus* and the remaining three genera are easily definable. As regards the species recognized by Dr. Sharpe we have also much doubt (speaking only from our observations of living birds) as to the separation of *Grus lilfordi* from *G. cinerea*, of *G. mexicana* from *G. candensis*, of *G. collaris* from *G. antigone*, and of *Balearica gibbericeps* from *B. chrysopelargus*.

It would seem as if no copy of the 'Proceedings of the Zoological Society of London' were in the (generally) excellent "Walden Library" attached to the Bird-room of the British Museum. Under the characters of the *Rhinocetidae* (p. 246) we find it recorded that the "nest, egg, and young" are "unknown." On referring to the useful work above spoken of it will be observed that the egg of the Kagu has been figured in 1868 from a specimen laid in the Society's Gardens (see P. Z. S. 1868, pl. xii. fig. 3). It resembles the egg of *Eurypyga*, but is larger in size.

The following species and subspecies are described as new in the present volume:—*Rallus æquatorialis* from Colombia and Peru, *Limnopardalus vigilantis* from Patagonia, *Aramides gutturalis* from S. America, *Porzana galapagoensis* from the Galapagos, *Corethrura reichenovi* from W. Africa, and *Grus lilfordi* from Eastern Siberia. *Heterotetrax* is proposed as a new name instead of *Heterotis*, preoccupied in Pisces. The type is *H. vigorsi* (Smith).

The following species are figured in this volume:—*Rallus saturatus*, *R. æquatorialis*, *R. virginianus*, *R. semiplumbeus*, *Limnopardalus vigilantis*, *Aramides gutturalis*, *Cabalus dieffenbachii* jr., *Eulaheornis woodfordi*, *Rallina euryzonoides*, *R. minahasa*, *Corethrura pulchra*.

67. *Stuhlmann on Emin Pasha's last Journey.*

[Mit Emin Pascha ins Herz von Afrika. Ein Reisebericht, mit Beiträgen von Dr. Emin Pascha, in seinem Auftrage geschildert von Dr. Franz Stuhlmann. Im amtlichen Auftrage der Kolonial-Abtheilung des Auswärtigen Amtes herausgegeben. 901 Seiten Text, mit 2 Karten von Dr. R. Kiepert und Dr. F. Stuhlmann. 4to. Berlin, 1894.]

This somewhat bulky but very interesting volume contains an account of the author's journey in company with Emin Pasha from Bagamoyo to Bukoba, the German station on Lake Victoria, and thence round the south-western shores of Lake Albert-Edward to Undussuma, on the eastern sources of the Congo. Here, as is well known, Dr. Stuhlmann, at Emin Pasha's command, left his leader and returned to the coast, while Emin pursued his last fatal journey eastwards,

and was ultimately killed by the Arabs about Oct. 20, 1893, some six days' march beyond Kinene, when he had nearly arrived at the main stream of the Congo. Dr. Stuhlmann's line is apparently ethnography, and we have been rather disappointed at the few allusions to birds and bird-life in the present narrative, the more so as we all know that Emin was a devoted ornithologist. There are, however, some passages relating to our special subject. On the heights of Ruwenzori Dr. Stuhlmann met with a "small grey Tit" (perhaps *Pinarochroa hypospodia* of Mts. Kenia, Elgon, and Kilimanjaro?). In the Semliki valley *Psittacus erithacus* occurred (*op. cit.* p. 312), and on the southern shores of Victoria Nyanza *Gymnoschizorhis leopoldi*. It is surprising to find, from the latest number of the 'Journal für Ornithologie,' that the last ornithological journal kept by Emin Pasha was written in *English*. As will be seen by reference to this most interesting paper (J. f. O. 1894, p. 162) (the original of which was captured by the Belgian officers of the Congo Free State at the storming of an Arab stronghold on the Upper Congo), it refers to the birds noticed in the district of Undussuma, S.W. of the Albert Nyanza, and at Irumu, on the right bank of the Ituri, at the edge of the great wooded region of the Upper Congo.

68. *Wilson and Evans's 'Aves Hawaiienses.'*

[*Aves Hawaiienses*: the Birds of the Sandwich Islands. By Scott B. Wilson, F.Z.S., assisted by A. H. Evans, M.A., F.Z.S. Part V., April 1894. 4to. London: R. H. Porter.]

The fifth part of the '*Aves Hawaiienses*' makes us better acquainted with some very interesting forms which were previously little known. *Palmeria dolii*, *Rhodacanthis palmeri*, *Drepanis funerea*, and *Acrulocercus bishopi* are all novelties hitherto unfigured. *Pennula ecaudata* is also a most peculiar bird. We congratulate the authors on their good progress, and hope that they will soon get out Part VI. and complete the work.

The following species are figured in this part:—*Palmeria dolii*, *Hemignathus lichtensteini*, *H. lucidus*, *Rhodacanthis*

palmeri, *Drepanis funerea*, *Acrulocercus bishopi*, *A. apicalis*,
Cestrelata phaeopygia, *Pennula ecaudata*, *Numenius tahitiensis*.

69. Wyatt's 'British Birds.'

[British Birds: being coloured Illustrations of all the Species of Passerine Birds resident in the British Isles, with some Notes in reference to their Plumage. By Claude W. Wyatt, M.B.O.U. Folio. London, 1891.]

Our friend Mr. Wyatt, before bringing his monograph of the Swallows to a completion, has energetically started another illustrated bird-book in the shape of a new work on British birds! This is, however, of a somewhat novel character. Mr. Wyatt, in his present volume, treats only of such Passerine birds as reside all the year round in the British Islands. The number of species thus embraced is 50. Subsequent volumes are in contemplation to treat of the migrant Passeres, the resident and migrant Picariæ, Striges, Accipitres, and Columbæ.

Mr. Wyatt is no mean artist. His figures are nicely drawn and the plates are well coloured. We have no doubt that Wyatt's 'British Birds' will be a popular work. There seems to be no limit to the demand for popular works of this character.

XLI.—Letters, Extracts, Notices, &c.

WE have received the following letters, addressed to the Editor, since our last issue:—

SIR,—I find I have made a mistake in the article on "Bird-nesting in Norway," and shall be obliged if you will correct it in the next number of 'The Ibis.' On page 228, "the only known hybrid between the Black Grouse and Capercailie" should read "between the Willow Grouse and Capercailie." Professor Collett, amongst others, has pointed out the error, and he tells me that two other specimens are now known.

I am, Sir,

Yours &c.,

Bramcote, Notts.,
 April 19, 1894.

HENRY J. PEARSON.

SIR,—In the number of ‘The Ibis’ for this month, on p. 228, referring to the Museum at Bergen, the writers state “The only known hybrid between the Black Grouse and Capercaillie is to be seen here.” I cannot understand what is meant, for of all hybrids among birds in a wild state this one seems to be the most frequent. The cross occurs almost annually, not only where Capercaillies are scarce, as in Scotland, but even in districts where there are larger numbers of both species of Grouse, as in Norway. I have myself received three specimens in one year from that country.

This hybrid is frequently mentioned in works on Natural History, and it is the general opinion that wherever Capercaillies are extending their range, and from whatever cause, the hen birds migrate first, the cocks not following for two or three years. During this time some of these wandering hens mate with the Black Grouse.

Specimens of this hybrid were killed in Scotland during last autumn, and among the foreign game which comes to London instances of it may often be seen.

I am, Sir,

Yours &c.,

Graftonbury, Hereford,
April 16, 1894.

WILLIAM E. DE WINTON.

SIR,—In your April issue, p. 228, Messrs. Pearson and Bidwell state that “the only known hybrid between the Black Grouse and Capercaillie is to be seen here” (Bergen Museum)!

Allow me to point out that in the Yorkshire Philosophical Society’s Museum there is a case containing a pair of these birds. Unfortunately no data exist as to where or when they were shot; we only know that they formerly adorned the once famous “Strickland” collection, the best birds from which have been drafted into the New British Bird collection.

The above-mentioned hybrids, I may add, have been critically examined by M. Suchetet of Rouen.

I am, Sir,

Yours &c.,

Holgate, York, April 18, 1894.

J. BACKHOUSE.

SIR,—May I draw attention to a curious error in Dr. R. Bowdler Sharpe's excellent Catalogue of the Alcedinidæ (Cat. B. Brit. Mus. vol. xvii.)? I observe that, by an unhappy oversight, the two species of *Syma* (pp. 196–198) are confused. Under *Syma torotoro* I find the description of *S. flavirostris*, though the synonymy and habitat are those of *S. torotoro*. As to *S. flavirostris* the case is the reverse. Even in the "Key to the Species" the two names are transposed.

I am, Sir,

Yours &c.,

KNUD ANDERSEN.

Korsgade 56, Kjöbenhavn,
April 13, 1894.

SIR,—In 'The Ibis' for 1893 (p. 361) there appeared a very interesting article, contributed by Mr. W. P. Pyecraft, on the mechanism of the upper mandible of some of the *Scolopacidæ*, and particularly describing the observations made by him upon the Dunlin (*Tringa alpina*). The bird in question was seen to open its bill at the distal extremity, while the rest of the bill remained closed, this observation being made after the bird had been wounded.

Later on 'The Ibis' (p. 563) contained a letter from Dr. R. W. Shufeldt relating to an article in 'Forest and Stream' (vol. xxxv. p. 412, 1890) written by Mr. Gurden Trumbull of Hartford, Conn., in which he very accurately described the act of the opening of the extremity of the bill as performed by a Woodcock (*Philohela minor*) which he had in captivity.

In the summer of 1889 I spent seven weeks on the Magdalene Islands, in the Gulf of St. Lawrence, collecting *Limicolæ*. While shooting on the long beaches which connect two of the largest islands of the group, I captured a number of Hudsonian Godwits (*Limosa hæmastica*), and discovered that, by a certain movement or pressure of the head of the bird, I could cause the extremity of the bill to open without opening the remainder of the bill. Further, I found that it was the movement of the upper mandible which caused the

opening, the flexible tip becoming bent and elevated. Believing this to be quite a new discovery, I tried a number of experiments, and also made dissections of the heads and bills of the Godwits. One experiment was to wrap the bill with thread to within an inch of its extremity, then to apply pressure on the sides of the head just at the back of the bill: the end of the upper mandible immediately became elevated, and with some force.

Returning to my home in New Haven, Connecticut, from the Magdalene Islands, I procured specimens of the Woodcock (*Philohela minor*) and Wilson's Snipe (*Gallinago delicata*) and tried the same experiments as I did with the Godwits and with the same results. I also examined Woodcock "borings," and found that they seemed to be no larger round than the circumference of the closed bill of the bird, which evidently probes down into the mud, and then opens its bill at the extremity to seize its food.

In the summer of 1890 I was unable to go to the Magdalene Islands myself, but Dr. L. C. Sandford, of New Haven, Conn., who had accompanied me on my trip the year previous, kindly sent me four fresh specimens of Godwits' heads, which I dissected and examined with care, observing the sliding movement in the upper mandible which causes its end to become elevated.

These observations were presented to the New York Academy of Sciences by the late W. P. Trowbridge, of Columbia College, New York City, as I was not a member of the Academy myself, a description and cut appearing in the 'Transactions of the New York Academy of Sciences' (vol. xi. p. 30), to which I beg leave to refer such of the readers of 'The Ibis' as are interested in this subject.

Mr. Trumbull's observation upon the Woodcock was really a direct confirmation of my discovery, and although I had not then actually published the discovery, I had been continuing my observations on it for some time.

It is indeed curious that observations have been made on three so different species of the *Limicolæ*, and it is quite fortunate that such has been the case, for it shows how

general this opening of the upper mandible extremity is among shore-birds which have the required flexibility at the end of the bill.

I am, Sir,

Yours &c.,

C. C. TROWBRIDGE.

Columbia College, New York City,
March 7, 1894.

SIR,—About the 20th of March last (1894) a fowler of Wexford Harbour sent me a *Common Scoter* (female) and an adult pair of Long-tailed Ducks. The latter are rare winter visitors to the south of Ireland, and there is no recent record of their occurrence in the County Wexford.

I am, Sir,

Yours &c.,

G. E. H. BARRETT-HAMILTON.

Trinity College, Cambridge,
June 8, 1894.

SIR,—I should be glad if you would allow me to warn ornithologists in England that quite recently two Lesser Kestrels (*Falco cenchris*) have escaped from captivity. They were captured on board the S.S. 'Irthington' off Malta about the first week in April; one got away at Blyth, Northumberland, about the 27th April, the other escaped at Belfast on the 5th May. Fearing they may be shot and recorded as genuine occurrences, I would be glad if you could insert this in the next issue of 'The Ibis.'

I am, Sir,

Yours &c.,

ROBERT PATTERSON.

Tilecote, Malone Park, Belfast,
June 12, 1894.

Great Bustard Breeding in Captivity.—In 'The Ibis' for July last (1893, p. 476) the Editor referred to the interesting fact that *Otis tarda* had deposited two eggs in a nest in the Zoological Society's Gardens, Regent's Park, and remarked that, so far as was known, this was the first instance of the Great Bustard breeding in captivity. I may remind him that

a previous instance is recorded in Bull. Soc. Imp. Acclim. Paris, 1861, p. 318. In this case (the details of which are given in 'The Zoologist' for 1880, p. 254) three eggs were laid, the hen bird sat, incubation lasted 28 days, and one young one was hatched.—J. E. HARTING.

Hirundo gutturalis at Brighton.—From some two or three dozen unfortunate Swallows netted in 1893 for hat furniture near Brighton I selected two in which the pectoral collar is broken up with red. These are probably examples of the eastern race which have migrated to our shores from Asia, answering to *Hirundo gutturalis*, Scop., figured and described in Sharpe and Wyatt's 'Monograph of the Hirundinidæ,' pt. xvii.; but Dr. Sharpe cautions his readers as to the difficulty of setting up a well-defined specific difference between *H. gutturalis* and *H. rustica*. Or they may be instances of one species varying so as to resemble another, as has been recorded of *Picus major* and *P. leuconotus*, *Picus major* and *P. numidicus*, *Sturnus vulgaris* and *S. unicolor*, *Loxia curvirostris* and *L. bifasciata*, *Accipiter nisus* and *A. rufiventris* ('Ibis,' 1893, p. 346), &c.

It is probable that occasionally, under circumstances unknown to us, a bird can and does throw out by a "sport," as it were, the distinctive colours of an allied species; and this consideration is most perplexing, not only in a study of the Hirundinidæ, but especially to anyone who is collecting and verifying occurrences of exotic stragglers in the British Isles.—J. H. GURNEY.

The Nectarinia of Mount Kenia.—In von Höhnelt's interesting narrative of Count Teleki's 'Expedition to Lake Rudolph' (English translation, vol. i. p. 374) the Sun-bird of Mount Kenia is called *Nectarinia deckeni*. From a communication lately received from Dr. Lorenz we learn that this name was given to it by mistake, and that the specimen obtained by Count Teleki was correctly determined by Dr. Lorenz as *Nectarinia johnstoni*, the same species as Mr. Johnston discovered upon Mount Kilimanjaro. It will be recollected that Dr. Gregory also obtained examples of

Nectarinia johnstoni on Mount Kenia (see Bull. B. O. C. 1893, no. xii. p. ix).

Marbled Duck in Bavaria.—At the meeting of the “Verein für Naturwissenschaft” in Brunswick on March 1st this year (v. Braunsch. Tagebl. 14. 3. 94) Dr. R. Blasius exhibited two specimens of the Marbled Duck (*Marmoronetta marmorata*) that had been obtained on the Lech, in the neighbourhood of Munich, in April 1893. This was the first recorded occurrence of this southern Duck in Germany. We may remark that a number of examples of this species have recently been received alive from Spain by Lord Lilford, so that it may now possibly occur somewhere in Great Britain.

Pelecanus crispus in Italy.—Dr. Giglioli writes (Florence, May 13th) that about a month previously he had received from Baron Barraco of Cotrone, Calabria, a splendid specimen of *Pelecanus crispus* in the flesh. It had been caught on the beach there. This was the fourth Italian specimen of this Pelican that he had obtained.

Tinamous as Food.—Tinamous of three species have lately made their appearance in the London game-market (*Rhynchotis rufescens*, *Nothura maculosa*, and *Calodromas elegans*). They are imported frozen from Argentina along with the meat, and are sold as “Yankee Partridges”! The *Rhynchotis* (as we can testify from personal experience) is a very good table-bird, with clean white pectoral muscles.

New Monograph of the Cranes.—Mr. F. E. Blaauw has in preparation an illustrated Monograph of the Cranes, for which 22 plates have been drawn by Mr. Keulemans, mostly from original sketches made by the well-known German artist Leuteman. These were taken from the Cranes living in the Zoological Garden of Amsterdam, where the late Director Westerman always paid special attention to this family of birds, and maintained a nearly perfect series. The work will be published by Brill in Leyden, and Porter in London, and will be folio in size.

Patria of *Cacatua gymnopsis*.—Mr. Alfred North (*cf.* 'Nature,' vol. l. p. 96, 1894) states that living specimens of the Naked-eyed Cockatoo (*Cacatua gymnopsis*, Selater), caught near Burketown in North Queensland, were lately on view in Sydney, and that there are examples of it in the Macleay Museum from the Gulf of Carpentaria and from Port Darwin, and in the Australian Museum from Cambridge Gulf. The note of interrogation in the record of the habitat for this species given in the British Museum Catalogue (*Psittaci*, p. 128)—"South Australia and also Northern and North-west Australia?"—may therefore be dropped.

Ornithologists on their Travels.—Mr. Büttikofer, of the Leyden Museum, is expected to return from his arduous journey across Dutch Borneo in November next. He entered the island at the port of Sambas on the north-west coast, and has ascended the valley of the river Kapocas. After crossing the mountain-ranges of the interior and exploring their zoological treasures he is expected to emerge at Banjermassing in S.E. Borneo.

Mr. A. B. Trevor-Battye, of the B. O. U., has recently left this country in a small steam-yacht bound for Kolguev (*Russicè* Kolgujuk) Island, off the coast of the Kanim Peninsula, in the Arctic Ocean, where he hopes to arrive in time for the breeding-season of the numerous birds said to be found there.

Undeterred by the fate of Böhm, Fischer, Hildebrandt, and Emin, the German naturalists continue to pursue their investigations in Eastern Africa. Dr. Stuhlmann, having finished the narrative of his last journey along with Emin Pasha, has returned from Europe to Bagamoyo, and is employed in mapping the coast-line, but still collects as much as he can. Dr. Oscar Neumann has left Irangi, and is somewhere in the interior of East Africa, journeying from the south towards the Victoria Nyanza. Herr Bohndorff is about to leave Europe to collect in Usugara, and so on towards Kilimanjaro. Dr. Kretzschmar, of Kiel, is likewise just departing for Lamu, being associated with the free-land scheme of coloni-

zation on Mount Kenia, but hopes to find opportunities of collecting Natural-History specimens.

Turning to the British sphere of influence in Africa we find Mr. Alexander Whyte, F.Z.S., on his way home from Nyasaland on a well-earned holiday. Capt. Shelley has worked out Mr. Whyte's last collection of birds and will publish the results in the next number of this journal. Mr. Scott Elliot has passed through Uganda, and by this time is probably on the slopes of Mount Ruwenzori, where he will fix his permanent collecting-quarters. Mr. Coryndon, who slew the White Rhinoceros, is gone back to Mashonaland, whence he will make his way to the Zambesi, and subsequently by the Shiré and Nyasa route to the north end of Lake Tanganyika, where he will establish himself for collecting purposes.

Anniversary Meeting of the British Ornithologists' Union, 1894.—The Annual General Meeting of the British Ornithologists' Union was held at the rooms of the Zoological Society of London, 3 Hanover Square, on Wednesday the 9th of May, at 6 P.M. In the absence of The President, Mr. PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S., was in the Chair. The Minutes of the last Annual Meeting having been read and confirmed, the Report of the Committee was read. It stated that four Ordinary Members (Col. John Campbell, Capt. Geo. Egerton, R.N., Mr. Francis Arnold Knight, and Mr. Harold Littledale, B.A.) had withdrawn, and that one (Lieut.-Col. George Morgan) had died since the last Anniversary. One Honorary Member (Dr. Eduard Baldamus) and one Foreign Member (Dr. A. von Middendorff) had also died.

The number of the Members of the Union at the close of 1893 was 263, consisting of 235 Ordinary, 1 Extraordinary, 9 Honorary, and 18 Foreign Members. There were 17 Candidates for the Ordinary Membership, 1 for the Honorary Membership, and 3 for the Foreign Membership, to be balloted for at the present Meeting.

The accounts for the year 1893 were presented by the Secretary, and approved by the Meeting.

The following Ordinary Members were balloted for and declared to be duly elected :—

John Lewis Bonhote, 68 Lexham Gardens, Kensington, W.

A. Macomb Chance, Jun., B.A., Lawnside, Edgbaston, Birmingham.

Edward Henry Chapman, 17 St. Hilda's Terrace, Whitby.
Sir Vauncey Harpur Crewe, Bt., Calke Abbey, Derbyshire.

Comm. Arthur Farquhar, R.N., Drumnayesk, Aboyne, N.B.

H. J. Kelsall, R.A., Woolwich.

Arthur Holte Macpherson, 51 Gloucester Place, Hyde Park, W.

Archibald McLean Marshall, 29 Queen's Gate Gardens, S.W.

James McLean Marshall, 29 Queen's Gate Gardens, S.W.
Charles Edward Pearson, Chilwell House, near Nottingham.

Richard Henry Read, L.R.C.P., M.R.C.S., Church Street, Hanley.

The Hon. Nathaniel Charles Rothschild, Tring Park, Tring.

Sewallis Evelyn Shirley, Ettington Park, Stratford-on-Avon.

Norman Frederic Ticehurst, "Winstowe," St. Leonard's-on-Sea.

Richard John Ussher, Cappagh House, Cappagh, R.S.O., Lismore.

Johnson Wilkinson, Huddersfield.

William Vincent Wood, 8 Castellain Road, Maida Hill, W.

Dr. Henry Hillyer Giglioli, F.M.Z.S., of Florence, Foreign Member, was also elected an Honorary Member, and Prof. Dr. Michael Menzbier, C.M.Z.S., of Moscow, Dr. Theodor Pleske, F.M.Z.S., of St. Petersburg, and Herr Herman Schalow, of Berlin, were elected Foreign Members of the Union.

The outgoing President and Secretary were re-elected, and Lt.-Col. L. H. Irby and Mr. W. T. Blanford, F.R.S., were chosen into the Committee in the places of Mr. Henry Seebohm and Mr. Osbert Salvin, M.A., F.R.S., who retired by rotation.

It was agreed that a new (seventh) series of 'The Ibis' should be commenced in 1895 with the 37th volume, and that Mr. P. L. Selater, F.R.S., and Mr. Howard Saunders should be appointed as joint Editors of it.

The question of a General Index for the fourth, fifth, and sixth series of 'The Ibis' was discussed, and it was decided that the matter should be referred to the Committee.

After a vote of thanks to the Chairman, the Meeting adjourned.

The Annual Dinner, subsequently held at Limmer's Hotel, was attended by 27 Members and guests.

Rare Birds in the Museo Civico, Milan.—Sign. Martorelli, Director of the Museo Civico di Storia Naturale of Milan, sends us an excellent original coloured figure of the rare Fruit-Pigeon *Ptilopus huttoni*, Finsch, from the island of Rapa, Austral group (*cf.* Salvad. Cat. B. xxi. p. 111), taken from the unique specimen formerly in the Turati Collection, which is now incorporated in the Museo Civico. Sign. Martorelli also informs us that there is an example of the scarce Peruvian bird *Myiadectes leucotis* (*cf.* Sharpe, Cat. B. vi. p. 377) in the same Museum, sent home by Raimondi many years ago.

Meeting of the German Ornithological Society.—The Annual Meeting of the Allgemeine Deutsche Ornithologische Gesellschaft will take place this year in Berlin on Sept. 29th. We can (from personal experience) assure any British ornithologists who may be able to attend this Congress that they will meet with a most hearty reception, and will find our German friends very glad to see them in Berlin.

Obituary.—Dr. A. v. MIDDENDORFF, Dr. L. v. SCHRENCK, and Herr Oberamtmann FERDINAND HEINE.

Dr. ALEXANDER THEODOR VON MIDDENDORFF, the distinguished Russian explorer and naturalist, well known to ornithologists as the author of '*Sibirische Reise*,' one of our principal authorities on the birds of Siberia, died at Hellenorm in Livonia, on the 16th of January last. Middendorff was born in St. Petersburg on Aug. 6th, 1815, and received his education at a gymnasium in that city and at the University of Dorpat, where he took the degree of M.D. in 1837. Afterwards he proceeded to Berlin, Erlangen, Vienna, and Breslau to pursue his studies. In 1839 Middendorff took up his abode at Kief, as assistant to the Professor of Zoology. Shortly afterwards he was sent to join v. Baer's expedition to the White Sea and Arctic Ocean, where, on one occasion, he was lost for eighteen days on the icy plains in mid-winter, and very nearly perished of cold and starvation. In 1843 Middendorff was sent out by the Imperial Academy of Sciences of St. Petersburg on his celebrated expedition to explore Northern Siberia, and his first reports upon the temperature of the earth at various depths won for him a European reputation. For many years in succession Middendorff continued to work out the numerous and varied results of his Siberian expedition—geographical, botanical, zoological, and anthropological—which were published in both German and Russian. In addition to this, he acted for 12 years as secretary to the Academy, and published a number of works on various branches of zoology and geography, amongst which his treatise on the migration of birds ('*Die Isepiptesen Russlands*') is often consulted by ornithologists. Middendorff's knowledge and acquirements were much valued at the Imperial Court, and he was appointed to instruct several of the Grand-Dukes in Natural History, and to accompany them on their foreign journeys. In 1885 Middendorff gave up active work for the Academy, and retired to his estates in Livonia, after which he devoted his untiring energies with great zeal to agriculture.

We have also to record the loss of a second distinguished traveller and naturalist of the Russian Empire at nearly the same date, though a younger man. Dr. LEOPOLD VON SCHRENCK, the first scientific explorer of Amoorland, died in St. Petersburg on the 20th of January last. As we learn from Dr. Leverkühn's notice, which he has kindly sent us, v. Schrenck was born in 1826, and, after taking the degree of M.D. at the University of Dorpat, studied Natural History at Berlin and Königsberg. In 1853 he started to travel round the world, and devoted several years to the exploration of the region traversed by the great river Amoor and its affluents. The results of these investigations were given to the world in the celebrated work '*Reisen und Forschungen im Amur-Lande*' (St. Petersburg, 1859-67), of which the second volume, containing the Birds, was published in 1860. This work and Middendorff's '*Sibirische Reise*' and Radde's '*Reisen im Süden von Ost-Sibirien*' are still our three principal authorities on the ornithology of N.E. Asia. Von Schrenck was long in the service of the Imperial Academy of Sciences of St. Petersburg, and in 1879 was appointed Director of the Anthropological and Ethnographical Museum. He was engaged up to the last in the arrangement and improvement of this collection.

We have also to record the death, on the 28th of March last, at a ripe old age, of Herr Oberamtmann FERDINAND HEINE, of Gut St. Burchard, Halberstadt, the founder and owner of the Museum Heineanum, one of the largest and best arranged private collections of birds in Europe. Ferdinand Heine, as we learn from the '*Ornithologischer Monatsbericht*' of May last, was born on the 9th of March, 1809, and from his earliest youth showed the keenest interest for birds, which was first manifested by his keeping tame pigeons of various select breeds. In 1830 he began to collect foreign birds, which were at first arranged as ornaments for his rooms, but as their number increased were gradually taken up as objects of scientific study. In 1843

Heine commenced his subsequently so celebrated collection of birds. His activity was so great that with the assistance of Dr. Cabanis after 50 years' work the Museum Heineanum was little behind the Bird Collection of the Royal Museum of Berlin in completeness, and as regards some groups actually superior to it. The Heinean Collection obtained greater importance from the fact that, as arranged by the owner and with his active co-operation, it was scientifically examined and catalogued at first (1850-51) by Dr. Cabanis, and subsequently by the same naturalist in conjunction with Herr F. Heine, Junr., the eldest son of the owner. The results of their labour were given to the world in the well-known ornithological work 'Museum Heineanum,' published at Halberstadt in five parts (1850-63), in which, besides a list of the specimens in the collection, a large number of new genera and species of birds were described and many notes added. But the completion of this work by no means exhausted Heine's energies. On the contrary, up to the end of his life he continued to improve and increase his museum and strove to make it as useful as possible for science. In 1882 he compiled a full systematic list of his collection, which he wrote in MS. himself. This list was revised and edited by Dr. Reichenow and Heine's eldest son jointly, and published at Berlin (1882-90) under the title 'Nomenclator Musei Heineani Ornithologici.' The list contains the names of 5187 species, represented by 11,968 specimens in the Collection. Heine passed the greater part of his life on his estate, St. Burchard, just outside the city of Halberstadt, where the Editor of this Journal had the pleasure of visiting him many years ago. We may be sure that this valuable collection—so rich in types—will be carefully treasured and kept in order by Mr. Ferdinand Heine, the present proprietor.

THE IBIS.

SIXTH SERIES.

No. XXIV. OCTOBER 1894.

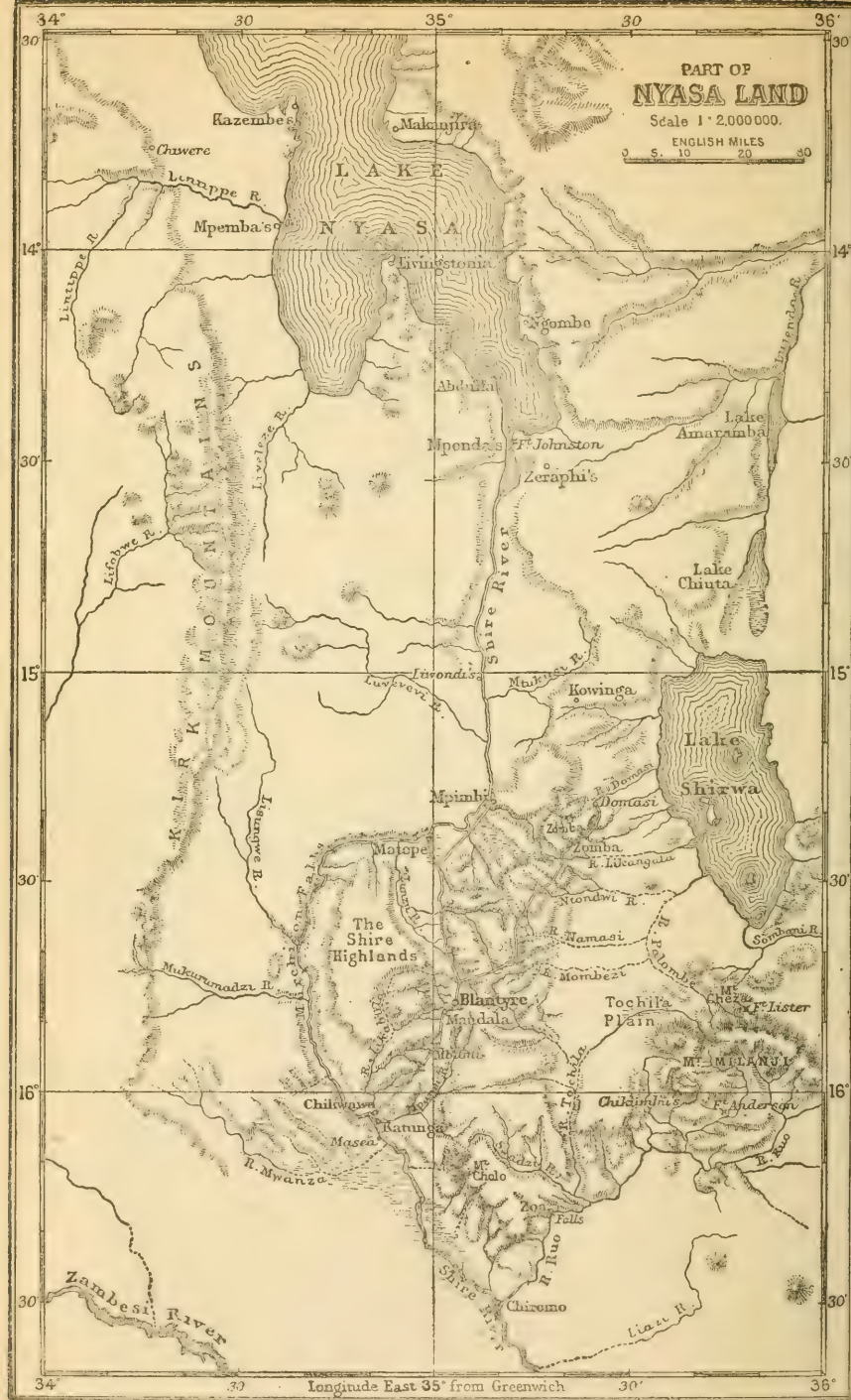
XLII.—*Third List of the Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland.* By Captain G. E. SHELLEY, F.Z.S.

(Plate XII.)

IN the present communication I give an account of the contents of several boxes of birdskins which have been forwarded to Mr. Selater by Mr. H. H. Johnston, C.B., F.Z.S., H.M. Commissioner for British Central Africa, during the past few months, and have been submitted to me for examination. As in the case of the previous collections, the specimens have all been obtained and prepared by Mr. Alexander Whyte, F.Z.S., Naturalist on Mr. Johnston's Staff, who is usually resident at Zomba, the seat of government.

My two former lists of the birds of Nyasaland, founded likewise on Mr. Johnston's collections, have been published in 'The Ibis' for 1893 and 1894. The first of these lists (Ibis, 1893, p. 1) contained the names of 134 species, the second (Ibis, 1894, p. 1) added 109, and the present one further adds 44, making together a total of 287 species of which specimens have been sent by Mr. Whyte from Nyasaland.

All the localities mentioned in these lists are comprised in the Shiré Highlands and adjoining district south of Lake



Nyasa, of which the accompanying map (p. 462), kindly lent to the Editor of 'The Ibis' by the Zoological Society of London, contains full particulars.

The specimens in the first collection were from Zomba, the Milanji plateau, and Mpimbi, on the Upper Shiré. The second collection contained specimens also from Fort Johnston at the south end of Lake Nyasa, Chiromo, and Lake Shirwa, a sheet of water some 50 miles in length lying nearly south of Lake Nyasa, of which little is yet known. At this lake, along the Palombe River, and at Fort Lister, on Mount Milanji, Mr. Whyte procured, not without certain risks, most of the specimens included in the present collection.

I may here quote in full some notes which I found attached to one of his specimens, but which have nothing specially to do with the particular bird:—

“Fort Lister (see map) is a new station, established at the extreme N.E. end of the Milanji range at an elevation of about 3300 feet, on a pass between the Milanji range and Mount Cheza, near the junction of two slave routes, and is of great importance. I proceeded there on the 7th July and remained three weeks with Captain Johnston, who had been stabbed by an assassin in five places, but was almost recovered. I was too much occupied in the fort, completing the stockade and with other matters, to do much collecting, and it was not very safe work prowling about in the jungle, where the enemy had spies on the look-out, and a revolver in one's belt had to be ready at any moment.”

The two former collections contained examples of a very large proportion of new species, 21 in number, or about 10 per cent., while I can find only a single new species represented in the present collection. It is certain, however, that Nyasaland cannot yet be exhausted of its ornithological treasures, but new species will mostly be found among the smaller Passeres, which so frequently hide in the high grass and dense bush, where they are difficult to discover. As soon, therefore, as I saw that the present collection was composed mostly of the more conspicuous birds that congregate by the water or in the open country, I hardly expected novelty in the species.

At the same time I am by no means disappointed in the interest of the consignment, which will be understood when I mention that it contains specimens of such birds as *Scotopelia peli*, *Eurystomus glaucurus* (new to the African continent), *Parus pallidiventris*, *Francolinus shelleyi*, and *Dendrocygna major*.

1. *ASTUR POLYZONOIDES*.

Astur polyzonoides (Smith); Shelley, Ibis, 1894, p. 2.

Zomba, April. An immature specimen.

2. *ASTURINULA MONOGRAMMICA*.

Asturinula monogrammica (Temm.); Shelley, Ibis, 1893, p. 6, 1894, p. 2.

Zomba, April and July; Fort Lister, July.

3. *SPIZAËTUS BELLICOSUS*.

Spizaëtus bellicosus (Daud.); Sharpe, B. S. Afr. pp. 40, 797; id. Cat. i. p. 265.

MilANJI Mountains. "This Eagle, a male, was captured in August 1892, and was kept for about a year in confinement at the Consulate, Zomba. On one occasion he killed a full-grown domestic cat in an instant. He was full-grown when caught, and never became really tame. This was the only one we have met with.—A. W."

4. *HALIAËTUS VOCIFER*.

Haliaëtus vocifer (Daud.); Shelley, Ibis, 1894, p. 3.

Lake Shirwa, May; Palombi River, Aug.

5. *HELOTARSUS ECAUDATUS*.

Helotarsus ecaudatus (Daud.); Sharpe, B. S. Afr. pp. 48, 798; id. Cat. i. p. 300.

Lake Shirwa, ♀, May. Immature, in nearly uniform brown plumage.

6. *ELANUS CÆRULEUS*.

Elanus cæruleus (Desf.); Shelley, Ibis, 1894, p. 3.

Zomba, Sept. An adult male and an immature bird.

7. *FALCO DICKINSONI*.

Falco dickinsoni, Selater, Ibis, 1864, p. 305, pl. 8; Shelley, P. Z. S. 1882, p. 302.

Cerchneis dickersoni, Sharpe, B. S. Afr. pp. 68, 801; id. Cat. i. p. 447.

Zomba, ♂, April. A fine adult specimen. This rare species is known to me only as having been met with in the Zambesi, Rovuma, and Benguela districts.

8. SCOTOPELIA PELI.

Scotopelia peli, Bp.; Sharpe, B. S. Afr. pp. 69, 801; id. Cat. ii. p. 10.

Mpimbi, Sept. 10. "The first specimen met with.—A. W."

Mpimbi, Nov. 2. "Obtained alive and lived three months in captivity.—A. W."

This, the largest of the Fishing-Owls, ranges from Senegambia to Natal. It has a pale and a dark phase of plumage; to the former the present specimen belongs, as well as others in the British Museum labelled Shonga (*Forbes*) and Zambesi (*Sir J. King*), and one obtained for me by Mr. Gorge on the Upper Umlaas River, in Natal, between Durban and Richmond, which is the specimen referred to (Sharpe, B. S. Afr. p. 801) as coming from Zululand. To the dark phase belong the Gambia bird figured in 'The Ibis,' 1859, pl. 15, and a specimen in the British Museum from Gaboon.

9. BUBO MACULOSUS.

Bubo maculosus (Vieill.); Shelley, Ibis, 1894, p. 3.

Mpimbi, Oct.

10. ASIO CAPENSIS.

Asio capensis (Smith); Sharpe, B. S. Afr. pp. 79, 802; id. Cat. ii. p. 239.

Zomba, April.

11. STRIX FLAMMEA.

Strix flammea, Linn.; Shelley, Ibis, 1894, p. 4.

♂, Zomba, April; ♀, Palombi River, Oct.

12. STRIX CAPENSIS.

Strix capensis, Smith; Sharpe, B. S. Afr. pp. 81, 802; id. Cat. ii. p. 307.

Zomba, Dec. 15.

13. *AGAPORNIS LILIANÆ*, sp. n. (Plate XII.)

Head and throat brick-red, inclining to vermilion towards the forehead, with the back of the head and hinder neck greenish yellow; remainder of the plumage bright grass-green, slightly paler and yellower on the underparts; inner webs of the quills dark brown; tail with a blackish sub-terminal band and a scarlet basal patch on all but the centre feathers. Bill rosy red, fading into white at the base of the upper mandible. Total length 5·3 inches, culmen 0·75, wing 2·7, tail 1·8, tarsus 0·55.

Hab. Upper Shiré, Nyasaland.

A male and two females, nearly similar in plumage, from Fort Liwondi, Upper Shiré (January 1894), are in the collection. The species would come into the red-billed division of Section A of Count Salvadori's key (Cat. B. xx. p. 506), having no blue whatever on the back and upper tail-coverts.

I name this pretty Love-bird after Miss Lilian Elizabeth Lutley Selater, only sister of Capt. Selater, R.E., who was chief of Mr. Johnston's staff during the first two years of his administration, and who prepared the chart of Nyasaland from which the present map (p. 462) was copied.

This is evidently the species met with by Sir John Kirk, and believed by him to be *Agapornis roseicollis*, of which he writes (Ibis, 1864, p. 329):—"Found in one spot, limited to about twenty miles, on the Shiré, between Nyassa and the rapids. It was never seen elsewhere, but was found there on two occasions. It is gregarious."

Mr. A. Whyte observes:—"Love-bird, from Fort Liwondi, Upper Shiré river. Mr. Johnston procured several of these Love-birds from Mr. Whicker, the collector at Liwondi station, B. C. A. We had several of them for a considerable time in the aviary at Zomba. My own became quite reconciled to confinement, and lived for some time in a large compartment in harmony with Weaver-birds, Gallinulas, Touracous, &c. Ultimately, however, the large-billed Porphyrios resented their presence and ill-used them, and finally killed them. In its natural state this Love-bird is found in flocks on the wooded hills on the east bank of the Upper Shiré."

14. EURYSTOMUS GLAUCURUS.

Eurystomus glaucurus (P. L. S. Müll.) ; Sharpe, Cat. xvii.
p. 29.

Palombi River, ♀, Oct. 3. This species has been only once previously recorded on the African continent. (J. f. O. 1889, p. 277.)

15. ALCEDO SEMITORQUATUS.

Alcedo semitorquatus (Swains.) ; Shelley, Ibis, 1894, p. 5.
Fort Lister, July.

16. BYCANISTES BUCCINATOR.

Bycanistes buccinator (Temm.) ; Shelley, Ibis, 1894, p. 6.
Lake Shirwa, May and June.

17. LOPHOCEROS MELANOLEUCUS.

Lophoceros melanoleucus (Licht.) ; Shelley, Ibis, 1894,
p. 6.
Fort Lister, July.

18. GALLIREX CHLOROCHLAMYS.

Gallirex chlorochlamys, Shelley, Ibis, 1893, p. 9, 1894,
p. 7.
Fort Lister, July.

19. TURACUS LIVINGSTONII.

Turacus livingstonii (Gray) ; Shelley, Ibis, 1893, p. 9, 1894,
p. 7.
Fort Lister, July.

20. INDICATOR INDICATOR.

Indicator indicator (Gm.) ; Shelley, Ibis, 1894, p. 8.
Fort Lister, Oct.

21. MELANOBUCCO ZOMBÆ.

Melanobucco zombæ, Shelley, Ibis, 1893, p. 10, 1894, p. 8.
Fort Lister, Oct.

22. DENDROPICUS ZANZIBARI.

Dendropicus zanzibari, Malh. ; Shelley, Ibis, 1863, p. 12,
1894, p. 9.
Fort Lister, July.

23. *TURDUS LIBONYANUS*.

Turdus libonyanus, Smith ; Shelley, Ibis, 1893, p. 12, 1894, p. 9.

Fort Lister, July.

24. *TURDUS GURNEYI*.

Turdus gurneyi, Hartl. ; Shelley, Ibis, 1893, p. 13, 1894, p. 9.

Fort Lister, ♀, Oct.

25. *XENOCICHLA FUSCICEPS*.

Xenocichla fusciceps, Shelley, Ibis, 1893, p. 13, 1894, p. 10, pl. 1. fig. 2.

Milanji Plateau, April ; Fort Lister, July. This is apparently a common bird in the elevated parts of Nyasaland, for Mr. Whyte collected a fine series there during the months of April, July, September, October, and November.

26. *PYCNONOTUS LAYARDI*.

Pycnonotus layardi, Gurney ; Shelley, Ibis, 1893, p. 13.

Fort Lister, ♀, Oct. This is a prettily marked, partially albino specimen.

27. *Calene anomala*.

Callene anomala, Shelley, Ibis, 1893, p. 14, 1894, p. 11.

Milanji Plateau, April. This species may be very local, but is certainly abundant on the Milanji Plateau, for Mr. Whyte has forwarded to us eight specimens, of which the last four are marked, two males and two females, all of them being perfectly similar in plumage.

28. *SAXICOLA PILEATA*.

Saxicola pileata (Gm.) ; Sharpe, B. S. Afr. pp. 238, 818 ; Seebohm, Cat. v. p. 397.

Palombi River, Oct. These specimens are similar and in full breeding-dress, two are labelled males, the other female, and are interesting as showing that in this species the sexes are similar in plumage.

29. *PARUS PALLIDIVENTRIS*.

Parus pallidiventris, Reichen. J. f. O. 1885, p. 217, 1887, p. 285.

Fort Lister, July. In all three specimens : one labelled male, the others females. They are in full dress and perfectly similar in plumage. This species ranges from Nyasaland into Quilimane and north to the Usegua country and to Kakoma, where the type was procured by Böhm.

30. *CHLOROPETA NATALENSIS*.

Chloropeta natalensis, Smith ; Sharpe, B. S. Afr. p. 335 ; id. Cat. iv. p. 278.

Zomba, ♀, Sept.

31. *PLATYSTIRA PELTATA*.

Platystira peltata, Sundev. ; Shelley, Ibis, 1893, p. 18, 1894, p. 14.

Milanji Plateau, April.

32. *TROCHOCERCUS ALBONOTATUS*.

Trochocercus albonotatus, Sharpe ; Shelley, Ibis, 1893, p. 19.

Milanji Plateau, April. Two adult males in full plumage. It is interesting to meet with this species again in Nyasaland, for, as I have previously observed, the type of the species was procured by Mr. Jackson on Mount Elgon, at the north-east extremity of the Victoria Nyanza.

33. *HIRUNDO PUELLA*.

Hirundo puella, Temm. ; Shelley, Ibis, 1893, p. 19, 1894, p. 15.

Palombi River, Oct.

34. *LANIARIUS BERTRANDI*.

Laniarius bertrandi, Shelley, Ibis, 1894, p. 15, pl. 2. fig. 2.

Milanji Plateau, April ; Fort Lister, July. This collection contains nine specimens.

The adult female differs from the male in having the sides of the head and neck grey, instead of black ; the ear-coverts only slightly darker than the crown ; the underparts paler,

with a less amount of fawn-colour on the lower throat and chest, and the flanks slightly barred.

The immature bird is similar to the female, but more barred beneath, the bars extending forward on to the lower neck.

35. *BRADYORNIS PALLIDUS*.

Bradyornis pallidus (Von Müll.) ; Shelley, Ibis, 1893, p. 21, 1894, p. 18.

Fort Lister, July.

36. *BRADYORNIS MURINUS*.

Bradyornis murinus, Finsch & Hartl. ; Sharpe, B. S. Afr. p. 844 ; id. Cat. iii. p. 310.

Bradyornis oatesii, Sharpe in Oates's Matabele-Land, App. pl. A ; id. B. S. Afr. p. 402.

Zomba, Feb., July, and Nov.

37. *PRIONOPS TALACOMA*.

Prionops talacoma, Smith ; Shelley, Ibis, 1893, p. 21.

Fort Lister, July.

38. *SIGMODUS TRICOLOR*.

Sigmodus tricolor (Gray) ; Shelley, Ibis, 1893, p. 21, 1894, p. 18.

Fort Lister, July and August.

39. *ORIOLOUS LARVATUS*.

Oriolus larvatus, Licht. ; Shelley, Ibis, 1893, p. 22, 1894, p. 19.

Fort Lister, July.

40. *LAMPROTORNIS MEVESI*.

Lamprotornis mevesi (Wahlb.) ; Sharpe, B. S. Afr. pp. 423, 846 ; id. Cat. xiii. p. 157.

Mpimbi, ♂ ♀, July. These two specimens are perfectly similar in plumage.

41. *AMBLYOSPIZA ALBIFRONS*.

Amblyospiza albifrons (Vigors) ; Shelley, Ibis, 1893, p. 25, 1894, p. 20.

Fort Lister, ♀, July.

42. *STEGANURA PARADISEA*.

Steganura paradisea (Linn.) ; Shelley, Ibis, 1891, p. 21.

Fort Lister, July. This specimen is labelled "female," which I consider must be a mistake, as it is in full adult male plumage.

43. *HYPOCHERA NIGERRIMA*.

Hypochera nigerrima, Sharpe ; Shelley, Ibis, 1893, p. 25.

Fort Lister, ♀, July. This specimen is similar in plumage to the adult male.

44. *PENTHETRIA ARDENS*.

Penthetria ardens (Bodd.) ; Shelley, Ibis, 1893, p. 25, 1894, p. 21.

Zomba, Aug. This specimen, though still in the brown plumage, has assumed some of the elongated tail-feathers.

45. *UROBRACHYA AXILLARIS*.

Urobrachya axillaris (Smith) ; Sharpe, Cat. xiii. p. 224.

Penthetria axillaris, Sharpe, B. S. Afr. pp. 461, 849.

Palombi River, ♂, Oct. In the brown plumage with the red shoulder.

46. *PYROMELANA TAHA*.

Pyromelana taha (Smith) ; Sharpe, B. S. Afr. p. 465 ; id. Cat. xiii. p. 242.

Fort Lister, ♀, July. An immature bird.

47. *CRYPTOSPIZA REICHENOWI*.

Cryptospiza reichenowi, Sharpe, Cat. xiii. p. 254.

Pytelia reichenowi, Hartl. J. f. O. 1874, p. 346 ; Reichen. J. f. O. 1875, p. 41, pl. 2. fig. 1.

Milanji Plateau, Nov. 2. An immature bird, probably of this species.

48. *PYTELIA AFRA*.

Pytelia afra (Gm.) ; Shelley, Ibis, 1893, p. 26, 1894, p. 22.

Fort Lister, ♀, July. This specimen is in the adult male plumage, so I think Mr. Whyte must have made an error in marking it as a female.

49. EMBERIZA ORIENTALIS.

Emberiza orientalis, Shelley, Ibis, 1893, p. 27, 1894, p. 23.
Fort Lister, July. Two are marked "male" and the other "female." They are all quite similar in plumage.

50. MIRAFRA FISCHERI.

Mirafra fischeri (Reichen.) ; Shelley, Ibis, 1894, p. 23.
Lower slopes of Milanji, 3000 feet, ♀, April.

51. MOTACILLA LONGICAUDA.

Motacilla longicauda, Rüpp. ; Shelley, Ibis, 1893, p. 27, 1894, p. 23.
Milanji Plateau, April.

52. TRERON DELALANDII.

Treron delalandii (Bp.) ; Shelley, Ibis, 1893, p. 28, 1894, p. 23.
Zomba, Aug.

53. PALUMBUS ARQUATRIX.

Palumbus arquatrix (Bp.) ; Shelley, Ibis, 1893, p. 28, 1894, p. 24.
Fort Lister, July.

54. HAPLOPELIA JOHNSTONI.

Haplopelia johnstoni, Shelley, Ibis, 1893, p. 28, pl. 3. 1894, p. 24.
Milanji Plateau, ♀, April. "This Dove is rare on Milanji—the only place where I have yet found it.—A. W."

55. CHALCOPELIA AFRA.

Chalcopelia afra (Linn.) ; Shelley, Ibis, 1894, p. 24.
Fort Lister.

56. TYMPANISTRIA TYMPANISTRIA.

Tympanistria tympanistria (Temm. & Knip.) ; Shelley, Ibis, 1893, p. 29.
Fort Lister, ♂, July.

57. GUTTERA EDOUARDI.

Guttera edouardi (Hartl.) ; Grant, Cat. xxii. p. 382.

Numida verreauxi and *N. pucherani*, Sharpe, B. S. Afr. pp. 585, 586.

Numida sp., Sclat. P. Z. S. 1890, pl. 10.

Port Herald, Lower Shiré, Nov.

58. *FRANCOLINUS SHELLEYI*.

Francolinus shelleyi, Grant, Cat. xxii. p. 157, pl. 6.

Zomba, ♂ ♀, April. The occurrence of this species north of the Zambesi supports Mr. Ogilvie Grant's suggestion that the *Francolinus gariepenensis*, Fischer, J. f. O. 1885, p. 120, from Zanzibar, should be referred to this species.

59. *FRANCOLINUS JOHNSTONI*.

Francolinus johnstoni, Shelley, Ibis, 1894, p. 24; Grant, Cat. xxii. p. 559.

Zomba, ♂, April.

60. *TURNIX NANA*.

Turnix nana (Sundev.) ; Grant, Cat. xxii. p. 541.

Turnix hottentotta, Sharpe, B. S. Afr. p. 604 (part).

Zomba, Dec. This species ranges from Accra on the Gold Coast, 6° N. lat., to Natal, but this is the first record of its occurrence north of the Zambesi in East Africa.

61. *RALLUS CÆRULESCENS*.

Rallus cærulescens, Gm. ; Kirk, Ibis, 1864, p. 335 (Shiré R.) ; Sharpe, B. S. Afr. p. 610.

Palombi River, ♂ ♀, Oct.

62. *PORZANA BAILLONI*.

Porzana bailloni (Vicill.) ; Sharpe, B. S. Afr. p. 614.

Palombi River, ♂, Oct. This is, I believe, the first time that this widespread species has been met with in the Zambesi district.

63. *LIMNOCORAX NIGER*.

Limnocorax niger (Licht.) ; Shelley, Ibis, 1893, p. 29, 1894, p. 25.

Palombi River, ♂, Oct.

64. *PORPHYRIO SMARAGDONOTUS*.

Porphyrio smaragdonotus, Temm. ; Sharpe, B. S. Afr. p. 619.

Porphyrio sp.?, Kirk, Ibis, 1864, p. 335 (Quilimane).

Palombi River, ♀, Oct. This is the first time the species has been identified as coming from the Zambesi district.

65. *GALLINULA CHLOROPUS*.

Gallinula chloropus (Linn.); Sharpe, B. S. Afr. p. 623.

Palombi River, ♂, Oct.

66. *PODICA PETERSI*.

Podica petersi, Hartl.; Sharpe, B. S. Afr. p. 625, pl. 12.

Lower Shiré, ♀, Oct. Although this species ranges over nearly the whole of Tropical and South Africa, it is a rare bird in collections, and has not previously been recorded from the Zambesi district.

67. *PARRA CAPENSIS*.

Parra capensis, Smith; Sharpe, B. S. Afr. p. 649.

Lake Shirwa, Feb.

68. *BALEARICA CHRYSOPELARGUS*.

Balearica chrysopelargus (Licht.); Sharpe, B. S. Afr. p. 629; id. Cat. xxiii. p. 294.

Lake Shirwa, Feb.

69. *GLAREOLA PRATINCOLA*.

Glareola pratincola, Linn.; Shelley, Ibis, 1894, p. 25.

Lake Shirwa, May and June. Here, according to Mr. Whyte, this *Pratincola* is common.

70. *CURSORIUS CHALCOPHTERUS*.

Cursorius chalcophterus, Temm.; Shelley, Ibis, 1894, p. 25.

Lake Shirwa, ♀, June.

71. *CHARADRIUS PECUARIUS*.

Charadrius pecuarius, Temm.; Seebohm, Geogr. Distrib. Charadr. p. 158.

Ægialitis varius (Vieill.); Sharpe, B. S. Afr. p. 661.

Lake Shirwa, May and June. This Plover is confined to the Ethiopian region, but is there to be met with everywhere in suitable localities from Egypt to Natal and Damaraland, and from the Cape Verd Islands and the Gold Coast to Madagascar.

72. CHARADRIUS TRICOLLARIS.

Charadrius tricollaris, Vicill. ; Shelley, Ibis, 1894, p. 26.
Lake Shirwa, ♀, May.

73. LOBIVANELLUS SENEGALUS.

Lobivanellus senegalus (Linn.) ; Shelley, Ibis, 1894, p. 26.
Lake Shirwa, ♀, May ; Palombi River, ♂ ♀, Oct.

74. VANELLUS SPECIOSUS.

Vanellus speciosus (Wagler) ; Seebohm, Geogr. Distrib. Charadr. p. 221.

Hoplopterus speciosus, Sharpe, B. S. Afr. p. 667.

Lake Shirwa, ♀, May. "A common Plover on the shores of Nyasa and Shirwa lakes.—A. W." This species ranges from Ugogo to Natal, and in Western Africa from the Quanza to the Orange Rivers.

75. VANELLUS CRASSIROSTRIS.

Vanellus crassirostris (De Filippi); Seebohm, Geogr. Distrib. Charadr. p. 214.

Hoplopterus crassirostris, Sharpe, B. S. Afr. p. 669.

Chettusia crassirostris, Kirk, Ibis, 1864, p. 331 (Shiró R.).

Lake Shirwa, May and June. This Plover ranges over Eastern Africa from Nubia to Natal, but has not been recorded from elsewhere.

76. HIMANTOPUS CANDIDUS.

Himantopus candidus, Bonn. ; Sharpe, B. S. Afr. p. 675.

Himantopus melanopterus, Meyer; Seebohm, Geogr. Distrib. Charadr. p. 277.

Palombi River, ♀, ♂ jr., Oct.

77. RHYNCHÆA CAPENSIS.

Rhynchæa capensis (Linn.) ; Sharpe, B. S. Afr. p. 679 ; Seebohm, Geogr. Distrib. Charadr. p. 456.

Palombi River, ♂ ♀, Oct.

78. TRINGA MINUTA.

Tringa minuta, Leisl. ; Sharpe, B. S. Afr. p. 681 ; Seebohm, Geogr. Distrib. Charadr. p. 435.

Lake Shirwa, ♀, May ; Palombi River, ♂, Aug.

79. *TRINGA SUBARQUATA*.

Tringa subarquata, Gldenst. ; Shelley, Ibis, 1894, p. 26.
Lake Shirwa, ♂ ♀, June ; Palombi River, ♀, Aug.

80. *MACHETES PUGNAX*.

Machetes pugnax (Linn.) ; Shelley, Ibis, 1894, p. 26.
Palombi River, ♂ ♀, Aug.

81. *TRINGOIDES HYPOLEUCUS*.

Tringoides hypoleucus (Linn.) ; Shelley, Ibis, 1894, p. 27.
Palombi River, ♂ ♂ ♀, Oct.

82. *TOTANUS GLAREOLA*.

Totanus glareola (Linn.) ; Shelley, Ibis, 1894, p. 27.
Palombi River, ♀, Oct.

83. *LARUS PHÆOCEPHALUS*.

Larus phæocephalus, Swains. ; Shelley, Ibis, 1894, p. 27.
Lake Shirwa, ♀, June.

84. *HYDROCHELIDON LEUCOPTERA*.

Hydrochelidon leucoptera (Meisn.) ; Shelley, Ibis, 1894,
p. 27.
Palombi River, ♀, Oct.

85. *ARDEOLA COMATA*.

Ardeola comata (Pall.) ; Shelley, Ibis, 1894, p. 27.
Shirwa, ♀, May. "A common Heron in the Shiré High-
lands.—A. W."

86. *BUTORIDES ATRICAPILLA*.

Butorides atricapilla (Afzel) ; Sharpe, B. S. Afr. p. 719 ;
Kirk, Ibis, 1864, p. 333.
Palombi River, Oct.

87. *ARDEIRALLUS STURMI*.

Botaurus sturmi (Wagl.) ; Sharpe, B. S. Afr. p. 720.
Zomba, ♀, April.

88. *ARDETTA PUSILLA*.

Botaurus pusillus (V.) ; Sharpe, B. S. Afr. p. 720.
Lake Shirwa, Feb.

89. SCOPUS UMBRETTA.

Scopus umbretta (Gm.) ; Sharpe, B. S. Afr. p. 725 ; Kirk, Ibis, 1864, p. 333.

Fort Lister, ♀, July.

90. ANASTOMUS LAMELLIGERUS.

Anastomus lamelligerus, Temm.; Sharpe, B. S. Afr. p. 732. Lake Shirwa, Feb.

91. LEPTOPTILUS CRUMENIFER.

Leptoptilus crumenifer (Cuv.) ; Sharpe, B. S. Afr. p. 734 ; Finsch & Hartl. Vög. Ost-Afr. p. 725 ; Kirk, Ibis, 1864, p. 333.

Palombi River, Sept.

92. IBIS ÆTHIOPICA.

Ibis æthiopicus, Lath. ; Sharpe, B. S. Afr. p. 736.

Ibis religiosus, Cuv. ; Kirk, Ibis, 1864, p. 334.

Palombi River, ♂ ♀, Oct.

93. PLEGADIS FALCINELLUS.

Falcinellus falcinellus (Linn.) ; Sharpe, B. S. Afr. p. 741.

Falcinellus igneus (Gm.) ; Kirk, Ibis, 1864, p. 334.

Palombi River, ♂ ♀, Oct.

94. PLECTROPTERUS GAMBENSIS.

Plectropterus gambensis (Linn.) ; Sharpe, B. S. Afr. p. 746 ; Kirk, Ibis, 1864, p. 335.

Lake Shirwa, ♀, May. There is also a young bird in the down, which died in captivity on the 5th of May.

95. DENDROCYGNA MAJOR.

Dendrocygna major, Jerd. Ill. Ind. Orn. pl. 23 (1843).

Dendrocygna major, Sclat. P. Z. S. 1866, p. 148.

Dendrocygna arcuata, var. *major*, Milne-Edw. & Grand. Hist. Mad., Ois. p. 731, pls. 272, 273, 274.

Palombi River, ♂ ♀, Aug. 19. These are fully adult, and probably a pair of birds of the same age, but they differ considerably in size, the male being the smaller of the two, as the following measurements will show :—♂, culmen 1·85 inches, wing 8·2, tarsus 1·8 ; ♀, culmen 2·2 inches, wing 9·1, tarsus 2·1.

There is a stuffed specimen of this species in Mr. Selater's room at the Zoological Society's House with the following note extracted from a letter dated January 4th, 1891, from Mr. Richard Crawshay:—"This Duck was killed at Kambwi Lagoon (the mouth of the northern Kikuru), N.W. coast Lake Nyasa, Feb. 6th, 1889. You will perhaps remember my having said I killed a pair at this time, the only occasion on which I have ever come across this bird in Nyasaland."

96. *PECILONETTA ERYTHORHYNCHA*.

Pæcilonetta erythrorhyncha (Gm.); Shelley, Ibis, 1894, p. 28.

Lake Shirwa, ♂ ♀, May. "Delicious birds for the table.—A. W."

97. *ANAS XANTHORHYNCHA*.

Anas xanthorhyncha, Forst.; Sharpe, B. S. Afr. p. 755.

Palombi River, ♂ ♀, Aug.

98. *QUERQUEDULA HOTTENTOTTA*.

Querquedula hottentotta, Smith; Shelley, Ibis, 1894, p. 28.

Lake Shirwa, May and August. In all seven specimens, males and females.

99. *AYTHYA CAPENSIS*.

Aythia capensis (Cuv.); Sharpe, B. S. Afr. p. 760.

Zomba, May and June. "Found in pairs along the streams of the Shire Highlands.—A. W."

100. *TACHYBAPTES FLUVIATILIS*.

Podiceps minor (Linn.); Sharpe, B. S. Afr. p. 787.

Lake Shirwa, May. Nine specimens.

XLIII.—*On some Birds collected on Byingyi Mountain, Shan States, Burma.* By EUGENE W. OATES, F.Z.S.

(Plate XIII.)

BYINGYI Mountain rises abruptly from the plains of Upper Burma and forms a portion of the intricate system of hills and mountains which constitutes the Shan States. It is

situated in about north latitude 20° and east longitude $96\frac{1}{2}^{\circ}$. It rises to a height of 6200 feet. Immediately to the south-east of Byingyi lies the State of Karennee, a country which was partially explored by Major W. R. Wardlaw-Ramsay some years ago, and an account of the birds of which appeared in 'The Ibis.'*

I have visited Byingyi twice: once in March 1893 and again in December of the same year. On both occasions my visits were somewhat hurried, and in March it was raining heavily nearly all the time I was on the mountain. Altogether I managed to collect examples of or to observe 61 species of birds; and as many of them are of great interest, I think that a list of them will prove useful. Many of the species have already been recorded by Major Wardlaw-Ramsay from Karennee, but I was fortunate in securing examples of a few which had escaped that excellent collector, probably for the reason that I worked at a greater elevation than he did.

Byingyi is densely wooded to the very top, but there are a few spurs and ridges of small extent covered with grass. On the neighbouring peaks there are numbers of pine-trees, but none on Byingyi itself. The climate is excellent, and an attempt is now being made to establish a sanitarium for troops and others near the summit of the mountain.

The birds noted in the following list were obtained at heights between 4500 and 6000 feet. The numbers in brackets after the name of the species refer to the numbers of the species in the bird-volumes of the 'Fauna of British India.'

1. *CORVUS MACRORHYNCHUS*, Wagl. [4.]
2. *CISSA CHINENSIS* (Bodd.). [14.]
3. *DENDROCITTA HIMALAYENSIS*, Blyth. [18.]
Not found below 4000 feet.
4. *MACHLOLOPHUS SPILONOTUS* (Blyth). [41.]

Already recorded from Karennee and from Muleyit Mountain in Tenasserim.

* See his "Ornithological Notes from Karennee," Ibis, 1875, p. 348.

5. *SCÆORHYNCHUS GULARIS* (Horsf.). [61.]

Already recorded from Karennee at 5600 feet, the precise altitude at which I obtained the bird on Byingyi.

6. *TROCHALOPTERUM MELANOSTIGMA* (Blyth). [86.]

Has been previously obtained in Karennee at 5000 feet, in the Salween pine-forests and on Muleyit Mountain above 3000 feet.

7. *POMATORHINUS ALBIGULARIS*, Blyth. [123.]

Confined to Burma, from Byingyi down to Tavoy, and found at all elevations.

8. *POMATORHINUS OCHRACEICEPS*, Wald. [126.]

Hitherto recorded only from the hills east of Toungnoo, Karennee, and Muleyit Mountain; apparently not found below 3000 feet.

9. *POMATORHINUS IMBERBIS*, Salvad. [129*.]

The only specimen obtained on Byingyi is in all respects similar to the bird obtained in the Salween district of Tenasserim by the late Mr. W. Davison. Its range extends to Karennee. It may be separated from *P. erythrogenys* by its small size, the wing measuring 3·5 and the tail 3·6 inches.

10. *CORYTHOCICHLA BREVICAUDATA* (Blyth). [153.]

This rare species has hitherto been recorded only from Muleyit Mountain, about 300 miles south of Byingyi. I observed a pair hopping about some stones in a stream at 5600 feet and secured them both.

11. *ALCIPPE NEPALENSIS* (Hodgs.). [163.]

Common in flocks throughout the higher parts of the mountain.

12. *STACHYRHIS ASSIMILIS*, Wald. [171.]13. *PSEUDOMINLA CASTANEICEPS* (Hodgs.). [182.]

Sittiparus castaneiceps (Hodgs.); Oates, Fauna of Brit. Ind., Birds, vol. i. p. 172.

I propose to substitute *Pseudominla* for the generic name

Sittiparus, formerly proposed by me (*l. c.*) for this species, and shown by Mr. Selater to be inadmissible (*Ibis*, 1890, p. 255).

Common in large parties in low brushwood.

14. *TESIA CYANEIVENTRIS*, Hodgs. [201.]

Not hitherto recorded from any point further south than Manipur.

15. *SIBIA PICAOIDES*, Hodgs. [203.]

Very common.

16. *LIOPTILA CASTANOPTERA* (Salvad.). [207.]

The type of this species was obtained by Mr. Fea in the Karen hills east of Toungnoo. It is common on Byingyi.

17. *LIOPTILA ANNECTENS*, Blyth. [208.]

Already recorded from Karennee.

18. *SIVA SORDIDA*, Hume. [222.]

Obtained in Karennee by Major Wardlaw-Ramsay and on Muleyit Mountain by the late Mr. Davison.

19. *IXULUS CLARKI*. (Plate XIII. fig. 1.)

Ixulus clarki, Oates, Bull. Brit. Orn. Club, no. xviii. p. xli (1894).

This new species is most closely allied to *I. humilis*, Hume (Pl. XII. fig. 2), which was discovered on Muleyit Mountain, in Tenasserim, by the late Mr. W. Davison. It differs conspicuously, however, by the forehead, crown, and crest being of a rich umber-brown, whereas the remainder of the upper plumage is ashy. In *I. humilis* the whole upper plumage is of a uniform brown. *I. clarki* has, moreover, a larger and more conspicuous silvery spot on either side of the neck.

I found this bird very common on Byingyi, in small parties, searching the blossoms of small trees for insects.

20. *CUTIA NEPALENSIS*, Hodgs. [236.]

Common and already recorded from Karennee.

21. *PTERUTHIUS ÆRALATUS*, Tick. [238.]

Also common, and extending through Karennee to Muleyit in Tenasserim and to the mountains of Perak.

22. *CHLOROPSIS HARDWICKII*, Jard. & Selby. [249.]

Common and extends from the Himalayas to the mountains of Tenasserim.

23. *MESIA ARGENTAUROS*, Hodgs. [257.]

Extending through Tenasserim to the mountains of Perak.

24. *HEMIXUS TICKELLI* (Blyth). [276.]

Karennee and the higher parts of Tenasserim.

25. *XANTHIXUS FLAVESCENS* (Blyth). [287.]

From the Khasi hills and Manipur down to Tenasserim, above 2500 feet.

26. *OTOCOMPSA FLAVIVENTRIS* (Tick.). [290.]

Common.

27. *SITTA FRONTALIS*, Horsf. [325.]

Common. I am pretty certain that I saw an example of *Sitta magna*, Wardlaw-Ramsay, on Byingyi, but I failed to secure it.

28. *DICRURUS CINERACEUS* (Horsf.). [333.]

Common.

29. *CHIBIA HOTTENTOTTA* (Linn.). [335.]

Common.

30. *BHRINGA REMIFER* (Temm.). [339.]

Common.

31. *PNOEPYGA PUSILLA*. [357.]

Already recorded from Karennee. Apparently rare.

32. *PHYLLOSCOPUS PULCHER*, Hodgs. [414.]

Very common in December.

33. *PHYLLOSCOPUS SUPERCILIOSUS* (Gm.). [417.]

Very common.

34. *ACANTHOPNEUSTE DAVISONI*, Oates. [430.]

Fairly common. I found a nest of this bird in March, a ball of grass and feathers on the ground, containing three white eggs. Found up to Manipur to the north and Muleyit in Tenasserim to the south.

35. *SUYA SUPERCILIARIS*, Anderson. [461.]

Found from the borders of China east of Bhamo down to Tenasserim and Sumatra.

36. *PERICROCOTUS BREVIROSTRIS* (Vig.). [495.]

Common.

37. *PERICROCOTUS SOLARIS*, Blyth. [498.]

Common.

38. *CAMPOPHAGA MELANOPTERA*, Rüpp. [506.]

Common.

39. *ORIOLOUS TRAILLI* (Vig.). [522.]

Apparently common.

40. *SIPHIA STROPHIATA*, Hodgs. [560.]

Procured in December.

41. *CYORNIS HODGSONI* (Verr.). [565.]

Observed in March, but not in December.

42. *CYORNIS OATESI* (Salvad.). [572.]

Procured in March only. This species extends from Manipur to Muleyit in Tenasserim.

43. *CYORNIS RUBECULOIDES* (Vig.). [575.]

Common.

44. *CULICICAPA CEYLONENSIS* (Swains.). [592.]

Abundant.

45. *NILTAVA GRANDIS* (Blyth). [593.]

A pair obtained in December.

46. *RHIPIDURA ALBICOLLIS* (Vicill.). [605.]

Common.

47. *HENICURUS SCHISTACEUS*, Hodgs. [632.]

Rare, owing to the want of suitable streams near the summit of the mountain.

48. *IANTHIA RUFILATA* (Hodgs.). [654.]

Seen frequently in open places.

49. *PETROPHILA ERYTHROGASTRA* (Vig.). [690.]

One specimen secured.

50. *EMBERIZA PUSILLA*, Pall. [791.]

Apparently common.

51. *ANTHUS MACULATUS*, Hodgs. [841.]

Common.

52. *ÆTHOPYGA DABRYI* (J. Verr.). [889.]

Excessively common. Extends probably as far north as Manipur and south to Muleyit.

53. *DENDROCOPUS ATRATUS* (Blyth).

The commonest Woodpecker on the mountain.

54. *GEVINUS CHLOROLOPHUS* (Vieill.).

Probably common.

55. *HARPACTES ERYTHROCEPHALUS* (Gould).

I saw one bird distinctly, but failed to get it.

56. *MEGALÆMA VIRENS* (Bodd.).

One specimen secured; probably common, but very silent in December.

57. *CYANOPS RAMSAYI* (Wald.).

Excessively common.

58. *PALÆORNIS FASCIATA* (Müll.).

The only species of this genus noticed.

59. *LORICULUS VERNALIS* (Sparrm.).

Probably common.

60. *GLAUCIDIUM BRODIÆI* (Burton).

Very common.

61. *MICROHIERAX CÆRULESCENS* (Linn.).

One specimen was shot on the summit of the mountain.

XLIV.—On the Nesting of *Phibalura flavirostris* and
Lochmias nematura. By Dr. EMIL A. GOELDI.

1. *PHIBALURA FLAVIROSTRIS*.

So far as I can make out from the ornithological literature at my disposal, nothing is yet known of the mode of life and the nesting of *Phibalura flavirostris*. Neither the Prince zu

Wied, nor Burmeister, nor any other scientific traveller in Brazil has had the opportunity of becoming acquainted with any details about it; and of all those persons occupying themselves with similar investigations that I have consulted on this question, not one was able to furnish me with the slightest information.

Phibalura is a very singular bird, having a somewhat hirundinine or cypseline habitus, produced especially by the long and forked tail and the short and flattened bill. It is an excellent flier, of quiet and peaceable temperament, and rarely emits any sounds, these when uttered being audible only in the immediate vicinity. It resorts to the dense and shady foliage of trees of moderate height, and, in one word, is a bird easily overlooked by persons not well trained in ornithological investigations. It has, even in its native country, no popular name, and the term "tesoura" (scissors), which I have heard sometimes applied to it by Brazilian hunters, is a quite vague and general one, used for all kinds of birds with forked tails, such as *Nauclerus furcatus*, *Hydropsalis forcipata*, *Tyrannus violentus*, and *Gubernetes yiperu*.

Mr. P. L. Selater, our best authority on Neotropical birds, places *Phibalura** among the Cotingidæ, in the subfamily Cotinginæ, and writes as follows:—"This is a very peculiar type, with an excessively short and widened bill, and a long deeply cleft tail, and perhaps ought to stand in a separate subfamily. It is restricted to S.E. Brazil." Burmeister† also places it among the Cotingidæ, and says of it:—"Der Vogel bewohnt das Waldgebiet des mittleren Brasiliens von Bahia bis Rio de Janeiro. Ich erhielt ihn bei Neu-Freiburg durch Hrn. Beseke. Er ist aber nirgends häufig, lebt ziemlich versteckt im Urwalde, und zeichnet sich weder durch eine laute Stimme, noch durch andere eigenthümliche Manieren aus."

I cannot agree with two of these statements. Firstly,

* 'Catalogue of the Birds in the Collection of the British Museum,' vol. xiv. p. 372 (1888).

† 'Systematische Uebersicht der Thiere Brasiliens,' ii. p. 433. (Berlin, 1856.)

Phibalura is not at all rare. For example, here, in the Sierra dos Orgãos, in Colonia Alpina, near Theresopolis, 800 mètres above the sea-level, it is even common, and half a dozen specimens can be seen in a morning. Secondly, it does not live in the forest, but in clear open places, in "pastos" (meadows), in gardens, and near the roads. It has a most confiding disposition, and is decidedly fond of human society, as I shall presently show. As we know from von Pelzeln*, Natterer met with *Phibalura* near Rio de Janeiro (June, August), at Taipa (November), and at Mugy das Cruzes in the mountain-forest on the way to Butuhuru (January). But he has nothing to say about the biology of this bird, except that berries were found in the stomach of an old male specimen. *Phibalura* is ranged by von Pelzeln also among the Cotingidæ, near *Procnias tersa*. It may be useful to remark here that the dates given by Natterer agree pretty well with my own observations, and involve a confirmation of a biological fact that I was fortunate enough to discover, namely, that *Phibalura flavirostris* is a summer visitor and nesting-bird in the mountain regions of the coast-zone of the States of Rio de Janeiro and São Paulo. It is absent from the Serra dos Orgãos during the winter months, and is at that time met with in the low coast-regions of the neighbouring countries. Thus I find in my former notes, made in Rio de Janeiro, "*Phibalura*, Rio de Janeiro market, 15th June, 1886," and I remember very well that, on inquiring in the Rio market where the specimens of *Phibalura* exposed dead as game in company with other birds (*Turdus flavipes*, *Peristera geoffroyi*, &c.) were found, I was always told at the foot of the Serra dos Orgãos. In the winter months Natterer collected his specimens in Rio de Janeiro, and it was summer when he met with the bird in the coast-mountains of São Paulo.

Having ordered all my people in the Colonia to observe this bird whenever practicable, I was informed on the 25th Sept., 1892, by our engineer that a couple of *Phibaluras* were

* 'Zur Ornithologie Brasiliens,' p. 131. (Wien, 1871.)

gathering nest-materials from trees distant some 70 mètres from the central buildings. I went at once to the place indicated and saw the two birds picking off lichens from the big branches, and assuming sometimes a very singular position, more like that of a Formicariine bird (such as *Philydor* and *Xenops*) or a Swallow hanging on to its loamy nest. A forked branch of this tree seemed to occupy their attention, but we could not discover anything like a real attempt to make a nest there. Some days afterwards we saw that the material was regularly transported to another tree, a "mulungú," like an *Erythrina*, with very dense foliage. This went on all through October, and we could observe that both sexes, male and female, took equal interest in gathering fragments of lichens. On the 9th November my cousin, Andreas Goeldi (a young man very useful to me in all such researches), told me he had discovered what was probably the nest placed in a fork, somewhat difficult to see from below, and at a height of from 13 to 15 mètres. On the 11th and 12th November one of the birds was seen constantly sitting on the nest; its presence was detected by the forked tail sticking out. Every day we saw the same appearance. The tree in question is at the margin of a brook, distant no more than 10 to 15 mètres from our sawing-engine, on an open place crossed by several paths. No noise ever disturbed the birds, and the most remarkable thing was that, although numerous loads of stones were shot down on the roads beneath the tree, the breeding Phibaluras were not driven off. On the 17th November I resolved to send a boy up the tree—with special precautions, in view of the extremely fragile consistence of the *Erythrina*-wood, and provided with a saw, a bag, and a long line—in order to bring down the nest and its contents. The sitting *Phibalura* would not leave and waited till the boy nearly pushed it away. The feat was not easy, the forked branch being very far off the trunk. When the boy had convinced himself of the presence of eggs, I ordered him to take them and to send them down in the bag attached to the line. Then I told him to saw the branch through, to tie it on the

line, and to send it down the same way. Thus I obtained the precious materials safely, and I have the honour to submit them to ornithologists who are interested in this matter. Afterwards I collected young *Phibaluras* of two different phases, and in this manner I am able to clear up the whole history of this bird.

Fig. 1.



Nest, eggs and young of *Phibalura flavirostris*.

The nest of *Phibalura* (see fig. 1) is of a very simple construction. It is made of lichens, which are curled up into a flattened cup of irregular shape. The lichen is *Usnea longissima*. No other softer material is found occupying the interior of the nest. Its contents consisted of two very beautiful eggs, which I should like to present to the British Museum Collection. Their colour is a very clear greenish blue, somewhat wax-like. The anterior pole is free of spots; around

the big posterior pole is an irregular crown of spots of a neutral tint, larger at the end and becoming smaller and more indistinct towards the middle. *A* has the following dimensions:—longitudinal axis 22 mm., largest transverse axis 19 mm., section of the axes at 13·5 mm. from the anterior point. *B*, longit. 23 mm., transverse 19 mm., section 13·5 mm. from anterior point.

I also subsequently took two nestlings—one quite young, on the 2nd February, 1893, and another, older, almost fully fledged, on the 24th February, 1893. Both these I kept some days alive and fed them with their natural food—berries of the different species of Loranthaceæ, our South-American mistletoes (*Loranthus* [*Struthanthus*] *marginatus*, *Str. coccineus*, &c.)*.

They devour enormous quantities of these berries, which are provided with a viscous pericarp. *Procnias tersa* is also very fond of this food. When hungry they clamour for food with a melodious “fin, fin,” repeated *ad infinitum*.

These young Phibaluras are very charming and agreeable creatures. The younger individual had a very short tail; the white colour was predominant on the abdominal side, some yellow appearing between and before the legs and at the ends of the remiges. The older individual had a long tail and the yellow markings had become salient. I found a second specimen of the same age on the 3rd February, 1894, on a bush beneath the place where I had obtained the nest and eggs in November 1892. Evidently it had dropped from the nest on a premature attempt to fly out.

Thus I can add a second fact in the natural history of *Phibalura*:—*It breeds twice a year in the Serra dos Orgãos, the first time in November, the second time in February.*

The following list of the specimens of *Phibalura* in my own series is of some importance, as showing the periods of their appearance:—

* Botanical determinations made in the Museum Botanicum Polytechnici Helvetici, Zurich.

1891.	1893.
Dec. 4 (adult).	Feb. 2 (young nestling).
	Feb. 24 (young fledged).
1892.	April 9 (adult).
April 21 (two adults).	Sept. 5 (two adults).
Aug. 14 (two adults).	Oct. 15 (five adults).
Sept. 2 (adult).	
Oct. 16 (two adults).	1894.
Oct. 30 (adult).	Feb. 3 (young nestling).
Nov. 17 (nest, with partly set eggs).	Feb. 4 (adult).
Nov. 20 (adult).	
Dec. 20 (two adults).	

It will be readily seen that my series shows the absence of *Phibalura flavirostris* here in the Serra dos Orgãos during the three months May, June, and July—the mid-winter months. Thus at the present moment I cannot find even one *Phibalura* here (the winter seems to have begun this year a little earlier). We know where *Phibalura* passes this time of absence from the coast-mountains.

I think there is now little more to do in the elucidation of the life-history of *Phibalura*. It has been proved that *it makes an open nest and that it has spotted eggs*. Ornithologists may now draw their conclusions as regards the exact systematic position of the bird. Unfortunately, it seems to me that very little is yet known about the other members of the family Cotingidæ. I have been on the track of the nesting of *Tijuca nigra*, the charming “assubiador” of the Serra dos Orgãos, but circumstances necessitate my departure for the Amazonian regions and leave me to hope that my cousin may be able to clear up this desideratum.

2. LOCHMIAS NEMATURA.

Lochmias nematura appears to me to be a representative of the European *Cinclus aquaticus*, at least so far as concerns its habits, its mode of life, and its voice. It is of daily occurrence, as well in the lowlands of Rio de Janeiro, where I always observe it in the small Rio Caboclo, coming from the Corcovado, as here in the Serra dos Orgãos. It is well known to the people in Minas Geraes, who call the beautiful

bird by the very uncomplimentary nickname "Presidente da porcaria," in consequence of its pronounced predilection for dirty places and similar localities, where worms and dipterous larvæ generally abound.

Mr. Selater* places *Lochmias* in the family Dendrocolaptidæ, a group which belongs, according to the views of Mr. A. R. Wallace, to the section of Formicariine Passeres. He writes concerning the bird:—" *Lochmias* seems to be somewhat related to *Furnarius*, like which it has the tarsal scutes almost obsolete. It has also some resemblance to *Sclerurus*, having a slightly stiffened tail. The wings are short and rounded. The two representative species are found over South America, from Venezuela to Paraguay and Bolivia." A similar position near *Furnarius* is given to the bird by Burmeister†. Pelzeln‡ ranges *Lochmias* in the family Certhiidae, subfamily Furnariinæ. Excepting in the case of the Ovenbirds (*Furnarii*) and the Spine-tails (*Synallaxis*), very little is known, it seems, of the nesting-habits of the Formicariidae.

As to the habits of *Lochmias nematura* I know only one authority, my countryman and friend, Mr. Carl Euler, still living in Rio de Janeiro, but unfortunately no longer working in ornithology. In his memorable notes§ upon the life-history of Brazilian birds, everywhere cited, which contain some correct and incorrect observations, both of which are accepted in every modern book, he writes:—"Wie den Vogel selbst, findet man auch sein Nest blos an den Ufern der Bäche und kleineren Flüsse. Ich traf es Anfangs October in einem Loche an einer steilen Uferwand, ca. 12' über dem Wasser. Die Höhle rührte von einer verfaulten Baumwurzel her und hatte 2' wagerechte Tiefe. Auf ihrem Grunde hatte der Vogel eine lose und unbedeutende Unterlage von Moos und Federn angelegt und brütete 2 rein weisse Eier."

I cannot agree with the statement in italics, which gives a

* 'Catalogue of Birds,' vol. xv. p. 28. (London, 1890.)

† 'Syst. Uebersicht,' vol. iii. p. 6.

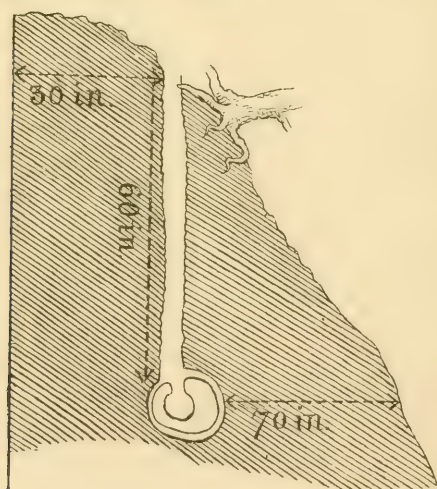
‡ 'Zur Ornithologie Brasiliens,' p. 35.

§ 'Beiträge zur Naturgeschichte der Vögel Brasiliens,' J. f. O. 1867, p. 399.

false idea concerning the architectural habits of the bird, and might cause erroneous conclusions about its real systematic position. Euler had evidently, by incautious digging, destroyed the nest, or fell into error from some other cause. I told him recently of the mistake he had made, and soon convinced him, by my better materials, that I was right.

On the 2nd September, 1892, I was informed that a "Presidente da porcaria" frequently entered a hole situated on a declivity some 30 mm. distant from a brook. On visiting the place I found that the hole, not more than 30 cm. above the ground, formed the entrance to a more or less horizontal gallery. Having first ascertained approximately the direction and length of this gallery, I resolved, with all precautions, to dig out the nest. The accompanying

Fig. 2.



Section of nesting-chamber of *Lochmias nematura*.

figure (fig. 2), showing a section through the ground, gives, better than words, an adequate idea of the disposition. As I had expected, the gallery ended in a spacious cavity,

5 11.215

NOTICE.

This leaf should be substituted for the corresponding leaf (pp. 491-2) issued in the number of 'THE IBIS' for last October. 187

bird by the very uncomplimentary nickname "Presidente da porcaria," in consequence of its pronounced predilection for dirty places and similar localities, where worms and dipterous larvæ generally abound.

Mr. Sclater* places *Lochmias* in the family Dendrocolaptidæ, a group which belongs, according to the views of Mr. A. R. Wallace, to the section of Formicariine Passeres. He writes concerning the bird :—" *Lochmias* seems to be somewhat related to *Furnarius*, like which it has the tarsal scutes almost obsolete. It has also some resemblance to *Sclerurus*, having a slightly stiffened tail. The wings are short and rounded. The two representative species are found over South America, from Venezuela to Paraguay and Bolivia." A similar position near *Furnarius* is given to the bird by Burmeister†. Pelzeln‡ ranges *Lochmias* in the family Certhiidæ, subfamily Furnariinæ. Excepting in the case of the Oven-birds (*Furnarii*) and the Spine-tails (*Synallaxis*), very little is known, it seems, of the nesting-habits of the Formicariidæ.

As to the habits of *Lochmias nematura* I know only one authority, my countryman and friend, Mr. Carl Euler, still living in Rio de Janeiro, but unfortunately no longer working in ornithology. In his memorable notes§ upon the life-history of Brazilian birds, everywhere cited, which contain some correct and incorrect observations, both of which are accepted in every modern book, he writes :—"Wie den Vogel selbst, findet man auch sein Nest blos an den Ufern der Bäche und kleineren Flüsse. Ich traf es Anfangs October in einem Loche an einer steilen Uferwand, ca. 12' über dem Wasser. Die Höhle rührte von einer verfaulten Baumwurzel her und hatte 2' wagerechte Tiefe. Auf ihrem Grunde hatte der Vogel eine lose und unbedeutende Unterlage von Moos und Federn angelegt und brütete 2 rein weisse Eier."

I cannot agree with the statement in italics, which gives a

* 'Catalogue of Birds,' vol. xv. p. 28. (London, 1890.)

† 'Syst. Uebersicht,' vol. iii. p. 6.

‡ 'Zur Ornithologie Brasiliens,' p. 35.

§ "Beiträge zur Naturgeschichte der Vögel Brasiliens," J. f. O. 1867, p. 399.

false idea concerning the architectural habits of the bird, and might cause erroneous conclusions about its real systematic position. Euler had evidently, by incautious digging, destroyed the nest, or fell into error from some other cause. I told him recently of the mistake he had made, and soon convinced him, by my better materials, that I was right.

On the 2nd September, 1892, I was informed that a "Presidente da porcaria" frequently entered a hole situated on a declivity some 30 m. distant from a brook. On visiting the place I found that the hole, not more than 30 cm. above the ground, formed the entrance to a more or less horizontal gallery. Having first ascertained approximately the direction and length of this gallery, I resolved, with all precautions, to dig out the nest. The accompanying

Fig. 2.

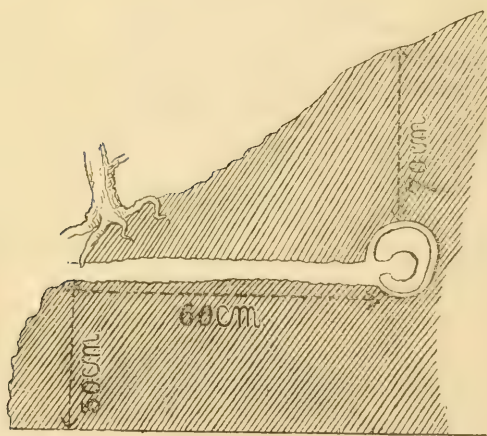
Section of nesting-chamber of *Lochmias nematura*.

figure (fig. 2), showing a section through the ground, gives, better than words, an adequate idea of the disposition. As I had expected, the gallery ended in a spacious cavity,

and contained a wonderfully large nest. I was able to remove it entire, and it is still in my collection. The two eggs which I found in the nest are entirely white (according to the well-known rule in the case of hole-builders), and are of the following dimensions:—*A*, longitudinal axis 24·5 mm., transverse axis 19 mm., section of the two axes at 13 mm. from the anterior point. *B*, long. axis 23·5 mm., trans. sect. 19·5 mm., section at 14 mm. from the anterior point.

Fig. 3.



Nest of *Lochmias nematura*.

The beautiful nest, of which I took a tolerable photograph (fig. 3), reminds one of a miniature of the monstrous constructions that I have sometimes found in the brooks of our Swiss mountains belonging to *Cinclus aquaticus*. Like that it is a vaulted globe with a lateral entrance. The exterior is

made of small roots and branches ; the interior lining consists of regularly crossed dry bamboo-leaves. The walls of the central cavity especially are very well made, and consist of crossed bamboo-leaves woven in a really artistic manner. The sagittal diameter of the nest is 13·5 cm., the transverse 12·5 cm. The entrance-aperture has a diameter of 3·5 cm. The thickness of the walls is everywhere less than 3 cm.

Thus Lochmias nematura is fully re-established as an architect by no means inferior to Furnarius. There is a striking resemblance between the shape and dimensions of the Oven-bird's nest (of which I gave a detailed description and several figures in 1886*) and that of *Lochmias*, and the simple comparison of the two nests would lead us to believe in the consanguinity of their builders, somewhat endangered by Euler's statements. The difference of the material is of no importance, and we may very well define the loam-nest of *Furnarius* as an over-ground nest of *Lochmias*, or the leaf-woven nest of *Lochmias* as a subterranean building of *Furnarius*.

Colonia Alpina, Theresopolis, Rio de Janeiro.

April, 1894.

XLV.—*Remarks on the Birds of Antarctica.*

By P. L. SCLATER, M.A., Ph.D., F.R.S.

THE earnest advocacy of a new "Antarctic Expedition" by Dr. John Murray† and his many supporters, and the successful voyage of the "Dundee whalers" to the Antarctic seas in 1892–93, have awakened a new interest in the fauna of the Antarctic Continent, concerning the ornithology of which I propose to offer a few remarks.

It is much to be regretted that most of the specimens of birds obtained during the voyage of the "Dundee whalers" were brought home not properly labelled and dated, and, moreover, that many of them have passed into private hands. So far as I know, only two of these skins have reached the

* "Der Lehmhans (João de barro), ein brasilianischer Nestkünstler." 'Der zoologische Garten,' xxvii. p. 265 (1886).

† See "The Renewal of Arctic Exploration." By John Murray, Ph.D. Geogr. Journ., January 1894.

British Museum, namely, examples of *Larus scoresbyi* (from lat. 64° S., long. 55° W.) and *Larus dominicanus* (from lat. 64° 15' S., long. 55° 50' W.), presented by Capt. A. Fairweather, of the steamship 'Balæna.'

Prof. D'Arcy Thompson has kindly sent me for examination thirteen skins obtained during the voyage and presented to the Museum of the University of Dundee by Dr. C. W. Donald. These, as kindly determined for me by Mr. Salvin (Petrels) and Mr. Howard Saunders (Gulls), are referable to the following species. Unfortunately they have no original dates and localities attached to them, but are nearly all of birds that may well occur in the "Antarctic seas." They are of the following species:—

<i>Chionis alba.</i>	<i>Thalassœca glacialisoides.</i>
<i>Sterna hirundinacea.</i>	<i>Daption capensis.</i>
<i>Larus dominicanus.</i>	<i>Prion turtur.</i>
— <i>scoresbyi.</i>	— <i>vittatus.</i>
<i>Stercorarius antarcticus.</i>	<i>Pagodroma nivea.</i>
<i>Oceanites oceanicus.</i>	

Turning to the account of the expedition of the "Dundee Whalers" given in the 'Scottish Geographical Magazine' for February 1894, I find the following description of the bird-life of Antarctica, contributed by Dr. Donald:—

"Of birds we met with 20 species in all. Of these the Penguins are by far the most numerous and characteristic representatives of this region. From an ornithologist's point of view, the Penguin, for many reasons, is one of the most interesting of living birds. To an ordinary observer it is one of the most ludicrous. Its peculiar methods of progression, its actions and gait, which may well be called 'old-fashioned,' and its senile expression, all serve to excite one's risibility.

"On one occasion, in the north of the Erebus-and-Terror Gulf, we saw large schools, numbering 200 to 300, of the common black-throated Penguin, swimming together, the movements of each school being controlled by a single individual of larger size, which followed in the rear. When first seen, at a distance of about 200 yards, the school nearest the ship was leaping and diving noisily. On a croak from the leader this noisy sport instantly ceased, and the whole

school swam quietly along for several minutes. In response to another and slightly altered croak, the leaping and diving recommenced. On a third croak the whole school disappeared in a prolonged dive.

"The white-throated variety, formerly described as a separate species under the name of *Dasyrhamphus herculis*, I have good reason for believing to be merely the young of the black-throated variety, the *Dasyrhamphus adelie*. No rookeries of the Emperor Penguin were found, the egg being as yet absolutely unknown.

"Of the other birds, the most characteristic are the Petrels, seven varieties of which are found in this region. They range from the great Giant Petrel down to the familiar little Mother Carey's Chicken. The Giant Petrel occurs in various shades of brown, and also in an almost pure white plumage, the latter form being very scarce, only about a dozen individuals of it having been seen.

"The beautiful *Chionis alba*, two Gulls, two Terns, a Skua, the Common Hooded Crow, and a handsome black-and-white Duck complete the list."

Being much interested to know what the "Hooded Crow" and "black-and-white Duck" could be, I applied to Dr. Donald for information, and received a kind reply stating that no specimen of either of these birds had been brought home, but that the bird which Dr. Donald calls "a Crow" he saw on three occasions, twice picking "at a dead seal on the shore and the third time on the wing." It appeared to resemble closely the "ordinary Carrion Crow." It was first seen on Dec. "25th, 1892, in lat. 64° 23' S., long. 56° 14' W."

As regards the Duck, several specimens, Dr. Donald tells me, were shot, but none preserved. "It was seen on the 6th and 7th of January, 1893, in comparatively large flocks in the north-west of Erebus-and-Terror Gulf, in lat. 63° 18' S., long. 56° 35' W., and only close on shore. The flocks flew in a wedge-shaped mass. The bird itself was about as big as a large Cormorant, save for the shorter neck, the back was black, and there was a considerable amount of

white about the breast and under surface of the wings. It somewhat resembled a Duck seen at the Falkland Islands."

As regards the "Crow," if it is really a Corvine bird, it will probably be of a new species, as no such bird is known in Antarctic America. The "Duck" might be *Bernicla magellanica* or *B. antarctica*, or an allied species.

Dismissing the claims of the Corvidæ and Anatidæ to figure in the Antarctic avifauna until further evidence be obtained, we find representatives of only four families yet positively ascertained to belong to the Antarctic ornis: these are Chionididæ, Laridæ, Procellariidæ, and Spheniscidæ, though it is probable that Cormorants (Phalacrocoracidæ) may also occur there.

I. CHIONIDIDÆ.

Dr. Donald speaks of *Chionis alba* as seen on the Antarctic ice, and there is a specimen in his collection. It occurs in the Falklands, Tierra del Fuego, and South Georgia*.

II. LARIDÆ.

The Gulls of the Antarctic coasts are *Larus dominicanus* and *L. scoresbyi*, of which specimens were brought back. Both are South-American species. There may probably be others.

The only Tern in the collection is *Sterna hirundinacea*.

The only Skua represented in Dr. Donald's collection is *Stercorarius antarcticus*, but Mr. Howard Saunders has recently described a new species, *Stercorarius maccormicki* (above, p. 291), from Possession Island, Victoria Land, so that there are two Skuas in Antarctica.

III. PROCELLARIIDÆ.

Dr. Donald speaks of seven species of Petrels being found on the seas of Antarctica. Six of these are represented in his collection, as already mentioned. The seventh would be, no doubt, the Giant Petrel (*Ossifraga gigantea*), a charac-

* Pagenstecher, "Vög. Süd-Georgiens," in Jahrb. wiss. Anst. z. Hamburg, vol. ii. (1885).

teristic form of the Southern seas, which he mentions as occurring there in various stages of plumage.

On referring to the report on the birds obtained during the voyage of the 'Challenger' (Chall. Rept. vol. ii., Birds, p. 240), it will be seen that the Petrels met with along the Antarctic ice-barrier in February 1874 were *Oceanites oceanica*, *Thalassœca glacialisoides*, *T. antarctica*, *Pagodroma nivea*, *Daption capensis*, *Prion desolatus*, and *Diomedea fuliginosa*.

In Moseley's excellent "Notes" on the 'Challenger' Voyage are the following remarks on the Petrels of the Antarctic ice-field:—

"As soon as we neared the edge of the pack-ice, a Petrel, which we had not seen at the islands we had left, became common (*Thalassœca glacialisoides*), and as soon as we reached the ice we fell in with the beautiful snow-white Petrel (*Pagodroma nivea*), which is never to be found far from the Antarctic ice. The bird flies very much like the Whale-bird (*Prion*); it settles on the water to feed; it remains on the wing late at night, when the other birds have disappeared. I have seen the birds flying about the ship as late as 11 o'clock at night, when it was quite dusk. This bird was found by Ross breeding on Cockburn Island in lat. 64° S.

"Besides these two Petrels, we saw, when at the edge of the pack, the Sooty Albatross (*Diomedea fuliginosa*), the Giant Petrel (*Ossifraga gigantea*), *Majaqueus æquinoctialis*, and the Cape Pigeon. These birds all left us when we entered the edge of the pack-ice; they appear to remain at its very margin."

Adding the species of the 'Challenger' Expedition to Dr. Donald's list, we find the Antarctic Procellariidæ as yet exactly recorded to be about eleven in number, namely:—

Diomedea fuliginosa.
Oceanites oceanicus.
Majaqueus æquinoctialis.
Thalassœca glacialisoides.
 — antarctica.
Ossifraga gigantea.

Daption capensis.
Prion vittatus.
 — turtur.
 — desolatus.
Pagodroma nivea.

IV. SPHENISCIDÆ.

The Penguins of Antarctica, according to Dr. Donald*, are four in number.

1. APTENODYTES FORSTERI, Gray.

On this well-known denizen of the Antarctic Continent, I may refer to my previous article in this Journal (*Ibis*, 1888, p. 337), in which I have given an account of all the specimens known to me and their localities, and have pointed out the undoubted distinctness of the Emperor Penguin from the King Penguin (*A. pennanti*).

Of this Penguin Dr. Donald (*op. cit.*) speaks as follows:—

“The Emperor Penguin we saw swimming on one or two occasions in lat. 63° S. Several were again seen on ice-floes to the south of 64°, and again in the north of Erebus-and-Terror Gulf, directing the movements of schools of smaller Penguins.

“Six skins were brought home by our expedition, five of them in good plumage, the sixth, a young one, in imperfect plumage. In addition to these, one complete and one partial skeleton were obtained.”

2. PYGOSCELIS ADELIE (Hombr. & Jacq.).

This Penguin appears to be one of the most abundant of the group in the Antarctic seas. The species was discovered by the naturalists of the ‘Voyage au Pôle Sud,’ and named, in 1841, after Terre Adélie, a strip of the Antarctic Continent south of Australia, on which it was found. There are specimens of it in the British Museum from the Antarctic ice (*Ant. Exp.*).

There is little doubt that, as maintained by Dr. Donald, *Dasyrhamphus herculis*, Finsch (P.Z.S. 1870, p. 322, pl. xxv.), is the young of this species.

Dr. Donald says (*op. cit.*):—“We saw these black-throated Penguins as far south as we went, that is, about 64½°, and I have no doubt they extended much farther. Within 30

* “The Penguins of Erebus-and-Terror Gulf.” By C. W. Donald, M.D. Proc. R. Phys. Soc. Edinburgh, vol. xii.

miles of the land they were fairly numerous, but at a greater distance from shore, even in the midst of abundant ice of the same character, they became scarce, and only very few were seen 90 miles from land.

“Four Penguin rookeries were seen about the south of Joinville Island. One of these—a very large one—belonging to this species was visited. It is situated on the north shore of what our captain has called ‘the Firth of Tay.’ I had not the good fortune to land upon this rookery; according to the boat’s crew who did so, the birds were in countless multitudes. The nests were crowded together in blocks formed by pathways running nearly at right angles to one another, and the birds were uniformly of the same species. Two eggs from this rookery measure 2·5 inches by 2 inches and 2·6 by 2·1 inches.

“The cry is seldom heard, and mostly at night or when the birds are disturbed. It is a short, rather harsh ‘quangk’; among themselves, when undisturbed, they make a gentle crooning sound. Their food consists mainly of a rather large red shrimp-like crustacean of the genus *Euphausia*. Their stomach frequently contained a number of pebbles.”

3. *EUDYPTES ANTARCTICA* (Forst.).

Examples of this distinct species, originally discovered by Forster near the circumpolar ice, were procured by the Antarctic Expedition in lat. $64^{\circ} 9'$ S. and long. 56° W., and in lat. $64^{\circ} 10'$ S. and long. 54° W. So there can be no doubt of its being essentially an Antarctic species, although it also occurs occasionally in the Falklands (*cf.* *Sci. P. Z. S.* 1861, p. 47).

Dr. Donald writes:—“Of the *Pygoscelis antarctica* (Forst.), or Ringed Penguin, I saw only a single specimen, which I obtained to the south of lat. 64° S., and about 15 miles to the east of Seymore Island; but several others were seen by Mr. Bruce, of the ‘*Balæna*,’ on their first making the ice, in the vicinity of the South Shetlands.”

4. *PYGOSCELIS TENIATA* (Peale).

This Penguin, well known in the Falkland Islands, seems

also to occur in the Antarctic seas. Dr. Donald writes (*op. cit.*):—

“The *Pygoscelis taniata* (Peale) was seen in the water on several occasions, and was easily recognized by its white crown and loud ‘quangk,’ much harsher and more penetrating than that of any of the other forms met with. On January 6th I landed on a small rookery belonging to this species, situated at the western extremity of Dundee Island, so called by our captain. It was placed about a stone’s throw from high-water, on the top of a horseshoe-shaped hillock, and consisted of some forty nests. No paths were seen to approach it from the sea, nor could a path well have been beaten down in the hard stony clay which formed the hillock. Each nest was composed of small stones or clayey earth heaped together into the shape of a small conical mound, with a depression some 3 inches deep in the centre. This latter was lined with feathers and down from the parents, most of which showed upon the lower part of their breasts a strip of bare red skin, from which the feathers had been pulled. Rather more than half the eggs were already hatched; and in many of the nests one of the two eggs was already hatched, while it was still possible to blow the other. I did not notice any difference in the size of the two eggs, such as is described by Dr. Sharpe in his paper on Kerguelen Land (*Phil. Trans.* clxviii.). Two eggs brought home are of a chalky-white colour, with a faint tinge of blue, and measure 2·7 inches by 2·2 inches, being thus distinctly larger than those of *Pygoscelis adeliæ*.”

XLVI.—*On the Birds of the Philippine Islands.*—Part II.*
The Highlands of North Luzon, 5000 feet. By W. R.
OGILVIE GRANT. *With Field-Notes by JOHN WHITEHEAD.*
(Plates XIV. & XV.)

MR. WHITEHEAD’S second collection from the Philippines arrived a few weeks ago (on the 15th of June), and is rich in

* For Part I. see above, p. 406.

new species and in interesting forms of all kinds of bird-life. Starting from Manila on the 1st of January, Mr. Whitehead did not return till the 3rd of April, and the results of this second trip have surpassed my most sanguine expectations. There are examples of no less than 19 very distinct new species, one of which (*Zosterornis whiteheadi*) I have been obliged to refer to a new genus, most nearly allied to the Timaliine forms *Cyanoderma* and *Mixornis*. But undoubtedly the most interesting of Mr. Whitehead's discoveries is a small resident Crossbill (*Loxia luzoniensis*), most nearly allied to the little Himalayan form (*L. himalayana*). He obtained the nest of this species, but no eggs. No doubt it had already bred, for one of the birds sent was a young one in the striped or immature plumage. I hope to receive some further notes and particulars regarding this collection, but these are not likely to arrive for some months, and beyond the information contained in various letters I have little or nothing to add to the following list. The mountains in the north of Luzon are difficult to work, being very steep, although in places as easy to traverse as a park, and covered with beautiful pine-trees and short grass. Very few mammals were obtained, but the specimens included examples of the wonderful light-grey gigantic rat (*Phloeomys cumingi*) and of *Paradoxurus philippensis*. The climate between the beginning of January and the end of February was remarkably dry, no rain to speak of having fallen during that period; the ground being burnt up, very few insects were to be found. Good collecting-ground is apparently scarce, as the country has in many places been much cleared, but possibly the new locality in which Mr. Whitehead is now working may turn out better in this respect. Whatever the ground may be like, the results of this trip are undoubtedly splendid, and there seems to be every prospect of my receiving another, perhaps equally fine, collection in a few months.

Besides the new birds obtained by Mr. Whitehead, I have proposed the name of *Caprimulgus celebensis* for a very distinct form of Goatsucker from Celebes, which has been hitherto confounded with *C. manillensis*, G. R. Gray. Its

most striking characteristics are the great length and thickness of the rictal bristles.

The following is a list of the species represented in the present collection from the Highlands of North Luzon:—

1. *ACCIPITER MANILLENSIS* (Meyen) ; Gurney, List Diurnal Birds of Prey, App. O, p. 173 (1884).

Two specimens sent by Mr. Whitehead, both females, are referable to this subspecies of *A. virgatus* (Temm.), having the whole of the sides and flanks of a nearly uniform rufous chestnut and the thighs barred with rufous brown and white. Wing 6·9–7·0 inches, tail 5·8–5·9.

2. *SPIZAËTUS PHILIPPENSIS*, Gurney ; Sharpe, Cat. B. Brit. Mus. i. p. 261 (1874).

A very fine adult male example of this rare species, agreeing perfectly with the specimen figured by Tweeddale, Tr. Z. S. ix. p. 141, pl. xxiv.

3. *SPILORNIS HOLOSPILUS* (Vig.) ; Grant, Ibis, 1894, p. 407.

The width of the subterminal white band across the tail varies greatly in different individuals. In a pair of specimens from Central Luzon recorded in the last collection, the male has the white band 1 inch wide, while in the female it is 1·2. The present collection contains a female which has the white band still wider (1·9 inch), and the whole of the lower back is spotted with white. The width of band apparently decreases with age.

4. *BUTASTUR INDICUS* (Gmel.) ; Sharpe, Cat. B. Brit. Mus. i. p. 297 (1874).

A young bird in the first plumage.

5. *PERNIS PTILONORHYNCHUS* (Temm.) ; Sharpe, Cat. B. Brit. Mus. i. p. 347 (1874).

A bird in young plumage.

6. *BUBO PHILIPPENSIS* (Gray) ; Sharpe, Cat. B. Brit. Mus. ii. p. 43 (1875).

Pseudoptynx philippensis, Walden, Tr. Z. S. ix. p. 144, pl. xxv. fig. 2 (1875).

Mr. Whitehead obtained a pair of this rare Owl, the type of which is in the British Museum, and was figured by Tweeddale. The figure is very misleading; the facial disk should be dull rufous buff, there is no strongly contrasted darker band beneath, and the breast and underparts below the white fore neck and chest should be cream-coloured.

7. *SCOPS LONGICORNIS*, Grant, Bull. B. O. C. iii. p. li (1894).

A single male specimen of this remarkable little Owl was obtained. It most nearly resembles *S. pennatus*, but may be instantly recognized by having the basal half of the tarsi entirely devoid of feathers, as well as by the length of the horn-like feathers on the head, which measure 1·5 inch, whereas in *S. pennatus* the longest are only 0·9. The markings on the feathers of the head are coarse and form black bands, and the whole of the markings on the back and underparts are coarser and less neat. Total length 8·0 inches, wing 5·6, tail 2·9, tarsus 2·15, of which ·6 is naked and covered with small octagonal scales.

Mr. Whitehead tells me this bird is very difficult to obtain, so I conclude he has seen others besides the one sent.

8. *CORONE PHILIPPINA* (Bonap.) ; Sharpe, Cat. B. Brit. Mus. iii. p. 42 (1877).

The specimens obtained in North Luzon are considerably larger than those described by Dr. Sharpe in his Catalogue.

♂. Culmen 2·5 inches, wing 12·0, tail 8·5, tarsus 2·1.

♀. Culmen 2·2 inches, wing 11·8, tail 8·2, tarsus 2·1.

A large series of these birds, however, shows great variation in size, the largest example before me being a specimen from Cebu, with a wing-measurement of 12·5 inches.

9. *ORIOLOUS ALBILORIS*, Grant, Bull. B. O. C. iii. p. xlix (1894).

♀ *adult*. General colour above olive-yellow, slightly darker on the wings; primaries brownish black, partially margined on both webs with yellow. Lores and chin white; throat, sides of neck, and rest of underparts bright yellow, most of the flank-feathers with indistinct dusky shaft-stripes. Tail

olive-yellow, the two middle pairs of feathers uniform, and the three outer pairs with a black subterminal blotch near the extremity of the inner web, and a yellow terminal spot. Total length 7·7 inches, wing 4·3, tail 2·9, tarsus 0·85.

A single female specimen of this extremely distinct species is all that has been received as yet. It is apparently most nearly allied to the *O. samarensis*, Steere, another remarkable form, from which it differs in having the whole of the underparts bright yellow, with indistinct dusky shaft stripes on the flanks only, and the lores and chin white.

10. *DICRURUS BALICASSIUS* (Linn.); Grant, Ibis, 1894, p. 408.

11. *ARTAMIDES STRIATUS* (Bodd.); Grant, Ibis, 1894, p. 408.

The present collection contains adult birds of both sexes.

12. *EDOLISOMA CÆRULESCENS* (Blyth); Sharpe, Cat. B. Brit. Mus. iv. p. 44 (1879).

The examples sent by Mr. Whitehead are typical specimens of this species, and the males are quite distinct from *E. alterum*, Wardlaw-Ramsay, from Cebu.

13. *PERICROCOTUS CINEREUS*, Lafr.; Sharpe, Cat. B. Brit. Mus. iv. p. 83 (1879).

14. *PERICROCOTUS*, sp. inc.

An apparently adult male has been obtained by Mr. Whitehead which may represent a new species nearly allied to *P. flammeus* from S. India and Ceylon, but it is impossible to form definite conclusions from this single individual.

15. *PRATINCOLA CAPRATA*, Linn.; Sharpe, Cat. B. Brit. Mus. iv. p. 195 (1879).

16. *MUSCICAPULA LUZONIENSIS*, sp. n.

♂ *adult*. Most nearly allied to *M. hyperythra*, but much paler, and differing in the following well-marked particulars:—The white eyebrow-stripes are composed of two patches of perfectly white feathers, not confluent on the forehead; the general colour of the upper parts is paler and greyer, without any trace of bluish; the chin is white tinged with buff instead

of black, the rest of the underparts are but slightly tinged with orange-buff even on the throat and breast, and the belly is white.

♀ *adult*. Much greyer and paler than the female of *M. hyperythra*. The general colour of the upper parts much greyer and less rufous olive; the lores and feathers round the orbit are nearly white instead of rufous, and the underparts differ as in the male. Total length 4·5 inches, wing 2·2, tail 1·9, tarsus 1·7.

17. *MUSCICAPULA WESTERMANNI*, Sharpe, P. Z. S. 1888, p. 270.

Specimens from Mooleyit, Tenasserim, are also referable to this species, which was originally described from the mountains of Perak.

18. *HYPOTHYMIS AZUREA* (Bodd.); Grant, Ibis, 1894, p. 408.

19. *RHIPIDURA CYANICEPS* (Cass.); Sharpe, Cat. B. Brit. Mus. iv. p. 323 (1879).

20. *CULICICAPA PANAYENSIS* (Sharpe); Sharpe, Cat. B. Brit. Mus. iv. p. 371 (1879).

The specimens before me are perfectly similar to those obtained by Moseley in Negros.

21. *CRYPTOLOPHA NIGRORUM*, Moseley, Ibis, 1891, p. 47.

This species was recently described from a single female specimen obtained at Lake Danao, Southern Negros, at an elevation of rather less than 3000 feet. Mr. Whitehead has now obtained several pairs from the highlands of North Luzon which agree perfectly with the type. The males are, however, rather larger than the females.

♂. Total length 4·2 inches, wing 2·2–2·25, tail 1·45–1·6, tarsus 0·8–0·85.

♀. Total length 4·0 inches, wing 2·0–2·15, tail 1·4–1·6, tarsus 0·75.

♀ (type). Total length 3·8 inches, wing 2·05, tail 1·4, tarsus 0·75.

22. *STOPAROLA NIGRIMENTALIS*. (Plate XIV. fig. 2.)

Stoparola nigrimentalis, Grant, Bull. B. O. C. iii. p. 1 (1894).

This is a very distinct species, easily recognized by the rather dull verditer-blue plumage and well-marked black forehead and chin, the latter characters being only found to a limited extent in the very differently coloured *S. thalassinoides*. The general colour is brighter than that of *S. sordida*, and apparently of much the same tint as in *S. panayensis*, but there is only an immature male specimen of the latter species in the National Collection.

The two sexes are perfectly similar in plumage, and may be briefly described as follows:—

General colour above dull verditer-blue, brighter on the outer webs of the quills, and paler on the forehead and underparts of the body. Belly and under tail-coverts white. Narrow frontal band, lores, chin, and feathers above and below the eye deep black. Total length 6·2 inches, wing 3·1, tail 2·6, tarsus 0·65.

23. *SIPHIA PHILIPPINENSIS*, Sharpe, Cat. B. Brit. Mus. iv. p. 450 (1879).

24. *PHYLLOSCOPUS BOREALIS* (Blas.); Grant, Ibis, 1894, p. 408.

25. *CETTIA SEEBOHMI*, sp. n.

Having entirely failed to identify this *Cettia* from North Luzon with anything hitherto known, I have been obliged to describe it as new.

The general appearance of N. Luzon birds reminds one somewhat of *C. cetti*, but the head and back are of a more olive-rufous shade, in marked contrast with the colour of the wings, which are strongly washed with rufous. The much stronger bill, the length of the tail, and other characters show them to be really most closely allied to the group including *C. cantans* (Temm. and Schl.), and especially *C. minuta* (Swinhoe).

The differences between these species and the Luzon bird may be briefly tabulated thus:—

The sixth primary longest, slightly longer than the fifth; wing *ca.* 2·1 inches *C. seebohmi*.

The fourth primary longest, distinctly longer than the fifth.

Upper parts olive, washed with rufous, especially on the forehead and outer webs of the quills;

wing *ca.* 2·6 *C. minuta*.

Upper parts olive-green.

Size larger; wing *ca.* 2·6 *C. cantans*.

Size smaller; wing *ca.* 2·2 *C. cantillans*.

The present species may be further shortly described as resembling *C. minuta*, but at once distinguishable by the shape of the wing, which is much smaller, differently shaped, and more rounded, as well as more rufous in colour. The underparts are white shaded with olive-grey on the breast and sides, while in *C. minuta* the breast, sides, and flanks are all washed with warm buff.

♂. Total length 5·5 inches, wing 2·15, tail 2·5, tarsus 1·0.

♀. Total length 5·3 inches, wing 2·1, tail 2·3, tarsus 0·9.

26. *CETTIA CANTURIENS* (Swinhoe); Seebohm, Cat. B. Brit. Mus. v. p. 141 (1881).

27. *CALLIOPE CAMTSCHATKENSIS* (Gmel.).

Erithacus calliope, Seebohm, Cat. B. Brit. Mus. v. p. 305 (1881).

Only male specimens of this bird were obtained.

28. *MERULA THOMASSONI*, Seebohm, Bull. B. O. C. iii. p. li (1894).

This interesting new Blackbird is perhaps most nearly allied to *M. poliocephala* (Lath.), from Norfolk Island, which may be at once distinguished by its much smaller size and pale brownish-grey head; it is also nearly related to *M. papuensis**, De Vis, but the following comparative descriptions will show the points in which they differ:—

* I have examined the type specimen described below, and the head appears to me to be exactly of the same colour as the back; the *nape* is slightly paler.—W. R. O. G.

MERULA PAPUENSIS.

"Upper surface bright dark-brown, paler and duller on the head; chin and throat pale greyish brown, forming a gorget clearly distinguishable in a side-light from the dark brown of the breast and abdomen—these are paler and duller than the upper surface. Præanal feathers white-tipped; under tail-coverts with pale shafts, and obscurely tipped with pale rufous brown. Thighs pale brown; legs and feet pale yellow; claws dusky towards the tips; bill yellow." Total length 14·0 inches, wing 5·4, tail 4·4, tarsus 1·4, culmen 0·8.

MERULA THOMASSONI.

Adult male. Upper surface deep black; head, neck, and chest, including the chin and throat, brown, darker on the crown, and forming a marked contrast with the breast and belly, which are black like the upper parts. Under tail-coverts with white shaft-stripes dilated towards the extremity. (In the most adult males only the shafts of the tail-coverts are white.) Thighs brownish black. Bill, legs, and feet bright yellow. Total length 9·6 inches, wing 4·9, tail 3·6, tarsus 1·3, culmen 0·9.

In younger male examples of *M. thomassoni* the feathers of the belly are margined with rufous, the præanal feathers are tipped with white, and the white middles of the under tail-coverts are much more developed.

The female adult has the upper parts washed with brown, and the head and nape are less strongly contrasted with the colour of the back; the chest shades more gradually into the brownish-black breast and belly, which have the feathers fringed with rufous. The under tail-coverts have white shaft-stripes as in the male, but in the oldest example only the shafts are white.

29. *MONTICOLA SOLITARIUS* (P. L. S. Müll.); Seebohm, Cat. B. Brit. Mus. v. p. 319 (1881).

30. *IOLE PHILIPPENSIS* (Gmel.); Grant, Ibis, 1894, p. 408.

31. *CHIMARRHORNIS BICOLOR*. (Plate XV. fig. 2.)

Chimarrhornis bicolor, Grant, Bull. B. O. C. iii. p. xlix (1894).

Only a single example of this remarkable Redstart was obtained, and unfortunately Mr. Whitehead was unable to ascertain the sex with certainty, although he believes it to have been a female.

The whole of the plumage is dark slate-blue except the

rump, belly, tail-coverts, and tail, which are dark chestnut, the thighs slate-grey, and the quills, which are brownish black. Total length 6·3 inches, wing 3·0, tail 2·4, tarsus 1·0, culmen 0·6.

The tail is rounded and composed of twelve feathers. The 5th primary is slightly longer than the 3rd and 4th, and considerably longer than the 6th, and the 1st is about half the length of the 2nd.

The only other member of the genus is the White-capped Redstart (*C. leucocephalus*) from the Himalayas and Burma. In this bird the sexes are alike, and, as it is important to know more about the present species in this respect, I trust before long Mr. Whitehead will settle this question by obtaining more examples of both sexes.

32. *MEGALURUS PALUSTRIS*, Horsf.; Sharpe, Cat. B. Brit. Mus. vii. p. 123 (1883).

33. *MEGALURUS RUFICEPS*, Tweedd.; Sharpe, Cat. B. Brit. Mus. vii. p. 125 (1883).

34. *PHYLLERGATES CINEREICOLLIS*, Sharpe, Ibis, 1888, p. 479.

This form appears to me barely separable from the Indian bird *P. coronatus*. It would be extremely difficult to determine a specimen without first knowing the locality whence it was obtained.

35. *CISTICOLA CISTICOLA* (Temm.); Sharpe, Cat. B. Brit. Mus. vii. p. 259 (1883).

36. *ZOSTERORNIS WHITEHEADI*. (Plate XV. fig. 1.)

Zosterornis whiteheadi, Grant, Bull. B. O. C. iii. p. 1 (1894).

This genus is most nearly allied to *Cyanoderma*, but there is no naked space round the eyes, which, on the contrary, are encircled by a ring of short white feathers perfectly similar to that of a true *Zosterops*. From *Mivornis* it differs in having the nostrils long and covered by a large membrane. The tail is composed of twelve feathers. The 5th primary is slightly longer than the 4th and 6th; 1st short, half the length of the 2nd.

Male and female adult. General colour above olive-green, top of the head grey; forehead, lores, superciliary stripes, sides of the head, ear-coverts, chin, and upper parts of the throat cinnamon-rufous; a ring of short white feathers round the eye; rest of the underparts rather pale yellow, brightest on the throat and middle of the abdomen. Quills brownish black, margined on the outer web with olive-green, on the inner with pale buff. Tail brown, washed with olive-green, especially on the outer web.

♂. Total length 5·9–6·2 inches, wing 2·5–2·8, tail 2·2–2·4, tarsus 0·9–1·0, culmen 0·75.

♀. Total length 5·5–5·8 inches, wing 2·55–2·65, tail 2·1–2·4, tarsus 0·9–0·95, culmen 0·7.

In an immature male the plumage resembles that of the adult, but the grey cap of the head is ill-defined and merges gradually into the olive-green of the back. The bill is considerably shorter than that of the adult and measures 0·6 inch.

37. *PARUS ELEGANS*, Less.; Grant, Ibis, 1894, p. 408.

38. *HYLOTERPE ALBIVENTRIS*, Grant, Bull. B. O. C. iii. p. xlix (1894).

An extremely distinct species, nearest *H. philippinensis*, Walden, from Luzon and Dinagat, and more distantly allied to *H. griseiceps* (Gray) from the Papuan Islands. In both these species, however, the head is differently coloured from the rest of the upper parts, that of the former being dark brown slightly washed with olive, while in the latter it is greyish brown. In the new species the head is dull olive-green like the mantle. There are also many other marked differences.

Male and female adult. Top of the head and mantle dull olive-green, shading into bright olive-yellow on the rump and upper tail-coverts; sides of the head and ear-coverts olive-grey; chin, throat, and chest greyish white, darker and slightly washed with olive on the sides; belly white; vent and under tail-coverts washed with yellow. Quills brownish black, margined with olive-yellow on the outer web. Tail-feathers olive-yellow, brightest on the outer web, and duller towards the extremities.

♂. Total length 6·0–6·3 inches, wing 3·0–3·3, tail 2·45–2·65, tarsus 0·9, culmen 0·7.

♀. Total length 6·1 inches, wing 3·2, tail 2·6, tarsus 0·9, culmen 0·7.

39. *LANIUS VALIDIROSTRIS*, Grant, Bull. B. O. C. iii. p. xlix (1894).

Most nearly allied to *L. tephronotus*, but the rump and upper tail-coverts are grey like the back instead of cinnamon-rufous, the tail is much shorter in proportion, and, though this is a considerably smaller bird, the bill is larger and stouter.

Adult male. Upper parts ashy grey, rather lighter on the head; the forehead, lores, a narrow band above, and a wide band below the eye, as well as the ear-coverts, black; the black forehead and superciliary stripes are edged above with pale grey; chin, throat, breast, and belly white; flanks and vent cinnamon, paler on the under tail-coverts; thighs black. Quills and tail-feathers black, the inner secondaries narrowly margined, and the outer tail-feathers tipped with white.

Adult female. Differs slightly in having the black on the sides of the face paler and absent on the forehead, which is whitish grey; the whitish-grey margins to the superciliaries are more marked; the margins to the secondaries are rufous-buff, and the thighs are grey.

♂. Total length 8·2 inches, wing 3·4, tail 3·5, tarsus 1·05, culmen 0·9.

♀. Total length 7·9 inches, wing 3·4, tail 3·5, tarsus 1·0, culmen 0·9.

♂ *L. tephronotus*. Total length 10·0 inches, wing 4·1, tail 4·7, tarsus 1·2, culmen 0·85.

40. *LANIUS NASUTUS*, Scop.; Walden, Tr. Z. S. ix. p. 169 (1875).

41. *LANIUS LUCIONENSIS*, Linn.; Gadow, Cat. B. Brit. Mus. viii. p. 274 (1883).

42. *DENDROPHILA MESOLEUCA*.

Dendrophila mesoleuca, Grant, Bull. B. O. C. iii. p. xlix (1894).

This beautiful and extremely distinct Nuthatch may be instantly recognized from all others of the genus by the large elongate patch of whitish feathers running from the nape to the middle of the back. It resembles *D. frontalis* in the paler colour of the underparts, but, like *D. aenochlamys*, it has a white spot just above the angle of the gape. As in the above-mentioned species, the female differs from the male in lacking the black postorbital band on either side of the occiput. "Bill lemon-yellow; legs dark green.—J. W."

♂. Total length 5·0 inches, wing 3·0, tail 1·55, tarsus 0·7, culmen 0·65.

♀. Total length 4·7 inches, wing 2·8–2·9, tail 1·5, tarsus 0·6–0·65, culmen 0·61–0·65.

43. *ÆTHOPYGA FLAVIPECTUS*, Grant, Bull. B. O. C. iii. p. xlix (1894).

This species is really very closely allied to *Æ. bella*, which is found in Surigao, off the coast of Mindanao, almost the only appreciable difference being that the scarlet spot on the middle of the chest of the latter species is entirely absent in the bird from the highlands of N. Luzon. Another point is that in *Æ. flavipectus* the metallic green scarcely extends beyond the forehead, whereas in *Æ. bella* it extends over the crown.

♂. Total length 3·7 inches, wing 1·65–1·7, tail 1·2–1·3, tarsus 0·5, culmen 0·65.

Mr. Whitehead has not yet obtained a female of this beautiful little Sun-bird.

44. *EUDREPANIS JEFFERYI*, Grant, Bull. B. O. C. iii. p. 1 (1894).

Although this species closely resembles *E. pulcherrima*, from the islands of Dinagat and Basilan, in general appearance, the male differs in the following important particulars:—The patch of metallic feathers behind the eye is steel-blue instead of green; the outer webs of the secondaries and scapulars are widely margined with *metallic* green, not olive-green; and the scarlet patch on the middle of the upper breast is more conspicuous.

The female adult resembles the female of *E. pulcherrima*.

♂. Total length 3·6–3·8 inches, wing 1·9–2·0, tail 1·05–1·15, tarsus 0·55, culmen 0·85–0·9.

♀. Total length 3·5–3·6 inches, wing 1·7–1·75, tail 0·95, tarsus 0·55, culmen 0·85.

45. *CINNYRIS WHITEHEADI*. (Plate XIV. fig. 1.)

Cinnyris whiteheadi, Grant, Bull. B. O. C. iii. p. 1 (1894).

Only a pair of this lovely Sun-bird were obtained. The male is an extremely remarkable and very beautiful bird, most nearly related to *C. sperata*, which is also found in Luzon, in the neighbourhood of Manila, and in other islands of the Philippine group, as well as in Palawan. The under-parts in the two species are very similar, but on turning over the skin the upper parts are strikingly different.

In *C. whiteheadi* the top of the head is golden green, the back and wings are deep black, and the rump and upper tail-coverts are metallic green. In *C. sperata* these parts are respectively golden with a purplish copper gloss, deep maroon-red, and green shot with purple.

The female is very similar in appearance to the female of *C. sperata*.

♂. Total length 4·0 inches, wing 2·1, tail 1·2, tarsus 0·6, culmen 0·8.

♀. Total length 3·8 inches, wing 1·95, tail 1·2, tarsus 0·55, culmen 0·65.

46. *CINNYRIS OBSCURIOR*, Grant, Bull. B. O. C. iii. p. 1 (1894).

This is a representative form of *C. jugularis*, but considerably smaller and less brightly coloured, the females being quite as easily distinguished one from another as the males.

Adult male. The general colour of the upper parts is much greyer than in *C. jugularis*, and only slightly tinged with olive, and the yellow of the lower breast and belly is much paler, inclining to greyish on the flanks, and the base of the culmen is considerably narrower. Total length 4·1 inches, wing 2·0–2·1, tail 1·3–1·5, tarsus 0·55–0·6, culmen 0·8–0·85.

Adult female. The yellow of the breast and belly is much

paler than in the female of *C. jugularis*, and the base of the culmen is conspicuously narrower. Total length 3·8–4·1 inches, wing 1·9–2·0, tail 1·2–1·3, tarsus 0·5–0·55, culmen 0·8–0·85.

47. *ZOSTEROPS MEYENI*, Bonap. ; Gadow, Cat. B. Brit. Mus. ix. p. 180 (1884).

48. *DICÆUM LUZONIENSE*, Grant, Bull. B. O. C. iii. p. 1 (1894).

Apparently the form most closely related to this beautiful new Flower-pecker is *D. ignipectus*, Hodgson, found in the Himalayas and Burmese countries and also recorded from the province of Fokien, in China. The great difference between the two males is that in the Luzon bird the red patch extends from the upper throat all over the chest and upper breast; the sides and flanks are more olivaceous and less cinnamon, and the under tail-coverts are orange-buff instead of pale buff. In fact, so far as the underparts of the body go, *D. luzoniense* closely resembles the purple-backed Kina-Balu bird *D. monticola*, but the dark band down the middle of the breast is absent in the latter species, and the under tail-coverts are pale buff instead of orange-buff. Total length 3·4–3·6 inches, wing 2·0–2·2, tail 1·0–1·2, tarsus 0·45–0·5, culmen 0·45.

The female resembles the female of *D. ignipectus*, but the top of the head and back are very distinctly glossed with metallic green as in the male, though the gloss is much less pronounced. In some females of *D. ignipectus* the head is slightly glossed, but the back is always olive-green. Total length 3·4 inches, wing 1·95, tail 1·1, tarsus 0·48, culmen 0·45.

49. *DICÆUM PYGMÆUM* (Kittl.) ; Sharpe, Cat. B. Brit. Mus. x. p. 43 (1885).

50. *DICÆUM OBSCURUM*, Grant, Bull. B. O. C. iii. p. 1 (1894).

This is a very sombre member of the plainest section of this genus of Flower-peckers. The sexes are perfectly

similar, and are easily distinguished from the allied *D. concolor*, Jard., from S. India, by having the lores and forehead dull olive-green like the rest of the head, whereas in the latter species these parts are white. No doubt the nearest ally is *D. inornatum* (Hodgs.), which is found in the eastern Himalayas, Burmese countries, Tenasserim Hills, and Sumatra; but the Luzon bird is very much larger, and its bill is nearly twice the size.

♂. Total length 3·6 inches, wing 2·2–2·3, tail 1·1, tarsus 0·55, culmen 0·6.

♀. Total length 3·6 inches, wing 2·0, tail 1·0, tarsus 0·55, culmen 0·55.

51. *HIRUNDO JAVANICA*, Sparrm.; Sharpe, Cat. B. Brit. Mus. x. p. 142 (1885).

52. *HIRUNDO STRIOLATA*, Boie; Sharpe, Cat. B. Brit. Mus. x. p. 161 (1885).

53. *ANTHUS MACULATUS*, Hodg.; Sharpe, Cat. B. Brit. Mus. x. p. 547 (1885).

“Probably a migrant, but so numerous in the forest that I hope it may be resident. It is now moulting in a rich buff-coloured neck.—J. W.”

54. *ANTHUS RUFULUS*, Vieill.; Sharpe, Cat. B. Brit. Mus. x. p. 574 (1885).

Out of three specimens sent, one has the whole outer web of the penultimate tail-feathers pure white, the second has the outer web blackish towards the base, and the third has the basal half of the outer web black, but unequally developed on the two sides. The black is apparently characteristic of younger examples.

55. *ANTHUS CERVINUS* (Pall.); Sharpe, Cat. B. Brit. Mus. x. p. 585 (1885).

56. *LOXIA LUZONIENSIS*, Grant, Bull. B. O. C. iii. p. li (1894).

This is, without doubt, the most interesting of Mr. Whitehead's discoveries. I fully expected to receive many novelties

from the highlands of N. Luzon, but when he wrote and said he had discovered a resident Crossbill, and taken its nest, I felt (not unreasonably, I think) some doubts, and imagined he might have found some new form perhaps allied to *Himatione* or *Vestiaria*, from the Sandwich Islands. On the arrival of the collection this bird proved to be a true *Loxia*, most nearly allied to the small Himalayan Crossbill, but so remarkably different that I have considered it advisable to record it under a distinct name, though no doubt those who follow Dr. Sharpe in uniting all the different forms under the name *L. curvirostris* may consider the name superfluous. In size the Philippine bird is about as large as *L. himalayana*, the total length and wing-measurements being nearly alike in both, but the bill of the former is very much stouter and larger. The Philippine males have, moreover, the general colour of the plumage more rosy and never orange-red.

The females are also easily distinguished, apart from the difference in the size of the bill. The new species is almost devoid of all trace of yellow, with the exception of a small patch on the rump, the underparts being dull brownish grey, with only the faintest yellow tinge on the breast.

♂. Total length 5.4–5.6 inches, wing 3.2–3.3, tail 2.0, tarsus 0.65, culmen 0.68–0.7.

♀. Total length 5.1–5.4 inches, wing 3.2, tail 1.9, tarsus 0.6–0.65, culmen 0.68–0.7.

57. *EMBERIZA PUSILLA*, Pall.; Sharpe, Cat. B. Brit. Mus. xii. p. 487 (1888).

58. *EMBERIZA SULPHURATA*, Temm. & Schl.; Sharpe, Cat. B. Brit. Mus. xii. p. 519 (1888).

Both these Buntings are, so far as I am aware, recorded for the first time from the Philippine group, though *E. sulphurata* was obtained in Formosa by Swinhoe.

59. *ARTAMUS LEUCOGASTER* (Wagl.); Sharpe, Cat. B. Brit. Mus. xiii. p. 3 (1890).

60. *SARCOPS CALVUS* (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 97 (1890).

61. *CHLORURA BRUNNEIVENTRIS*, Grant, Bull. B. O. C. iii. p. 1 (1894).

This beautiful little Finch adds a third species to the genus, *C. hyperythra*, from Java, differing in having the upper tail-coverts dull orange, while *C. borneensis*, Sharpe, from Kina Balu, N.W. Borneo, has the breast and belly pale tawny rufous. *C. brunneiventris* further differs from both in having the green of the sides of the breast washed with blue, and the blue on the crown of the head deeper and less extended. A key to the three species would read as follows:—

Upper tail-coverts dull orange *C. hyperythra*.

Upper tail-coverts green, much the same colour
as the rest of the upper parts.

Middle of the breast and belly pale tawny rufous, contrasting with the deeper-coloured chest; sides of the breast green; blue of the forehead duller and extending over the crown *C. borneensis*.

Middle of breast and belly deep tawny rufous like the chest; sides of the breast green washed with blue; blue of the forehead brighter and not extending over the crown *C. brunneiventris*.

62. *MIRAFRA PHILIPPINENSIS*, Wardlaw-Ramsay; Sharpe, Cat. B. Brit. Mus. xiii. p. 605 (1890).

63. *CAPRIMULGUS MANILLENSIS*, ^{by G. R. Gray} G. R. Gray; Hartert, Cat. B. Brit. Mus. xviii. p. 544 (1892).

Mr. Hartert has followed Lord Tweeddale in considering the bird from Celebes identical with the above-named species from the Philippines; this is clearly a mistake. Lord Tweeddale believed that the type specimens of *C. manillensis* in the British Museum were not fully adult, the outer pair of rectrices having only the terminal portion of the inner web white; but this character is not dependent on age, every specimen from the Philippines being perfectly similar in this respect—in none is the terminal portion of the outer web white. How the bird from Celebes came to be identified with *C. manillensis*, G. R. Gray, by both Lord Tweeddale and

Mr. Hartert I am at a loss to understand, for two more totally distinct species of Goatsucker can hardly be imagined. In the Celebes bird the rictal bristles are much longer and stouter than in any other species of *Caprimulgus*, and extend far beyond the end of the culmen, the longest ones being about once and a half the length of the culmen from its base, and more than twice as long as the exposed part of the culmen. This character alone is sufficient to distinguish the Celebes bird at a glance, for in *C. manillensis* the bristles are very much finer and are very little longer than the culmen. The example from Celebes (apparently not quite adult, the primaries being tipped with buff) is most nearly allied to *C. andamanicus*, Hume, the two outer tail-feathers being rather narrowly tipped on both webs with white, the white extremity being less than an inch in length; the white spots on the inner webs of the primaries are small, but clearly defined.

I propose to name the Celebean bird *Caprimulgus celebensis*. Its measurements are as follows:—Total length 12 inches, wing 7·1, tail 5·8, tarsus 0·8, middle toe and claw 1·05, culmen 0·85, longest rictal bristle 1·4.

64. *LYNCORNIS MACROTIS* (Vig.); Hartert, Cat. B. Brit. Mus. xvi. p. 605 (1892).

65. *LYNCORNIS MINDANENSIS*, Tweeddale; Hartert, Cat. B. Brit. Mus. xvi. p. 605 (1892).

If these two forms, the types of which are before me, are really distinct species, then both occur in North Luzon, for out of four specimens of *Lyncornis* sent by Mr. Whitehead, three are typical *L. macrotis*, perfectly similar to Vigors's bird, and the fourth agrees perfectly with Tweeddale's types of *L. mindanensis*. Personally I am inclined to believe that the latter are merely younger examples of the same species. The darker head and shorter wing may be characteristic of youth, as it seems unlikely two closely-allied forms should occur in the same locality.

66. *EURYSTOMUS ORIENTALIS* (Linn.); Grant, Ibis, 1894, p. 409.

67. *MEROPS BICOLOR*, Bodd.; Grant, Ibis, 1894, p. 409.

68. *MEROPS PHILIPPINUS*, Linn.; Sharpe, Cat. B. Brit. Mus. xvii. p. 71 (1892).

69. *ALCEDO ISPIDA*, Linn.; Grant, Ibis, 1894, p. 409.

70. *CEYX CYANIPECTUS*, Lafr.; Sharpe, Cat. B. Brit. Mus. xvii. p. 185 (1892).

71. *HALCYON GULARIS* (Kuhl); Grant, Ibis, 1894, p. 409.

72. *HYDROCORAX HYDROCORAX* (Linn.); Grant, Cat. B. Brit. Mus. xvii. p. 358 (1892).

73. *PENELOPIDES MANILLÆ*, Bodd.; Grant, Ibis, 1894, p. 409.

74. *IYNGIPICUS MACULATUS* (Scop.); Hargitt, Cat. B. Brit. Mus. xviii. p. 332 (1890).

75. *THRIPONAX JAVENSIS* (Horsf.); Grant, Ibis, 1894, p. 409.

Of three specimens sent, a male and female have the white patch in the middle of the lower back well marked, while the third (a female) has hardly a trace of it.

76. *CHRYSOCOLAPTES HÆMATRIBON* (Wagl.); Hargitt, Cat. B. Brit. Mus. xviii. p. 454 (1890).

77. *CACOMANTIS MERULINUS* (Scop.); Shelley, Cat. B. Brit. Mus. xix. p. 268 (1891).

Two adult male specimens have the head and neck rather dark slate-grey, similar to the rest of the upper parts; the throat grey, gradually shading into pale rufous on the breast and brighter rufous on the belly; and the inner under wing-coverts very dark slate-colour.

78. *EUDYNAMIS MINDANENSIS* (Linn.); Shelley, Cat. B. Brit. Mus. xix. p. 321 (1891).

79. *CENTROPUS JAVANICUS* (Dumont); Shelley, Cat. B. Brit. Mus. xix. p. 354 (1891).

Total length 15-16 inches, wing 6·4, tail 8-8·5, tarsus 1·7, culmen 1·15.

80. *LEPIDOGRAMMUS CUMINGI* (Fraser); Shelley, Cat. B. Brit. Mus. xix. p. 404 (1891).

81. *LORICULUS PHILIPPENSIS* (P. L. S. Müll.); Grant, Ibis, 1894, p. 410.

82. *OSMOTRERON AXILLARIS* (G. R. Gray); Salvad. Cat. B. Brit. Mus. xxi. p. 48, pl. iv. (1893).

83. *PHABOTRERON LEUCOTIS* (Temm.); Grant, Ibis, 1894, p. 410.

84. *PTILOPUS OCCIPITALIS*, G. R. Gray; Salvad. Cat. B. Brit. Mus. xxi. p. 72 (1893).

85. *CARPOPHAGA AENEAE*, Linn.; Salvad. Cat. B. Brit. Mus. xxi. p. 190 (1893).

Salvadori says:—"The Philippine bird (*C. chalybura*, Bp.) has the grey colour of the hind neck and upper mantle lighter and more sharply defined from the metallic-green back; the tail somewhat greener, with less bluish tinge." To this I would add that there is a dark purplish-grey band across the nape, very distinct in the three specimens sent by Mr. Whitehead and clearly shown in other examples from the Philippine group.

86. *PTILOCOLPA CAROLA* (Bonap.).

Carpophaga carola, Salvad. Cat. B. Brit. Mus. xxi. p. 206 (1893).

I think there can be little doubt that *P. carola* is the adult female of *P. griseipectus* (G. R. Gray), but only one specimen (an adult female) has as yet been obtained. This bird agrees perfectly with the other specimens of the so-called *P. carola*.

87. *MACROPYGIA TENUIROSTRIS*, G. R. Gray; Salvad. Cat. B. Brit. Mus. xxi. p. 346 (1893).

88. *GALLUS GALLUS* (Linn.); Grant, Cat. B. Brit. Mus. xxii. p. 344 (1893).

89. *TURNIX OCELLATA* (Scop.); Grant, Cat. B. Brit. Mus. xxii. p. 548 (1893).

90. *GALLINULA CHLOROPUS* (Linn.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 169 (1894).

91. BUTORIDES JAVANICA (Horsf.) ; Sharpe, Bull. B. O. C. iii. p. xvii (1894).

92. ARDETTA CINNAMOMEA (Gmel.) ; Sharpe, Bull. B. O. C. iii. p. xxxi (1894).

93. GALLINAGO GALLINAGO (Linn.).

Scolopax gallinago, Seebohm, Geogr. Distr. Charadriidæ, p. 484 (1887).

94. GALLINAGO MEGALA, Swinh.

Scolopax megalæ, Seebohm, Geogr. Distr. Charadriidæ, p. 479 (1887).

XLVII.—*On a new Species of Fern-bird (Sphenæacus) from the Snares Islands.* By Sir WALTER L. BULLER, K.C.M.G., Sc.D., F.R.S.

IN a collection of birds made for me by Mr. H. H. Travers, on the last visit of the Government steamboat 'Hinemoa' to the various groups of islands adjacent to New Zealand, there are a good many specimens of a Fern-bird or "Utick," obtained by him on the Snares, a group of islets lying about 70 miles south of the southernmost extremity of New Zealand. I have hitherto referred this island-form to Mr. G. R. Gray's *Sphenæacus fulvus*. But the opportunity of examining so good a series (both of males and females) has led me to investigate the subject further, and I am now satisfied that the species of the Snares is distinct.

Mr. G. R. Gray's description of *Sphenæacus fulvus* appeared in his very useful "List of the Birds of New Zealand and the adjacent Islands," which came out in 'The Ibis' for 1862.

To commence with, his bird was from New Zealand ; and, although no locality is given, it cannot have come from the Snares, inasmuch as there was no communication with those small islands at that time.

According to his description, *Sphenæacus fulvus*, although of a "rather larger size" than *Sphenæacus punctatus*, has a

smaller bill and shorter tail. This is not the case with the bird from the Snares, which is altogether appreciably larger, the bill being more robust and the tail so conspicuously different that I have named the species from that feature; that is to say, instead of its being composed of Emu-like feathers with disunited barbs, the webs are closely set and compact, not differing in any way from the typical tail-feathers of the extensive family to which this genus belongs. Mr. Gray says of his bird that "the black streaks and dots are less pronounced than in *Sphenæacus punctatus*," which is not true of the present bird; and he adds that "the abdomen is white, more or less minutely dotted with black," a description which is equally inapplicable to this species. In Mr. Gray's bird the white superciliary streak is more pronounced than in *Sphenæacus punctatus*, in this species it is less so.

The form which I am now distinguishing appears to be intermediate between *Sphenæacus punctatus* of New Zealand and *Sphenæacus rufescens*, mihi, of the Chatham Islands; and its occurrence on the Snares is the more interesting as another inhabitant of these islets is the Chatham-Island Robin (*Miro traversi*, mihi), which has never yet been found in New Zealand.

SPHENÆACUS CAUDATUS, sp. nov.

♂ *ad.* similis *S. punctato*, sed paullò major; ubique lætius fulvescens, plumis vix ita distinctè medialiter lineatis; pectore etiam minùs distinctè maculato; remigibus rectricibusque ochraceo-fulvis; caudâ minùs acuminatâ, scapis plumarum haud nudis, sed omnino plumiferis. Long. alæ 2·75 poll., caudæ 3·5, rostri ·5, tarsi ·85.

♀ mari similis.

Hab. Inss. Snares, maris Novi-Zelandici.

This is the *Sphenæacus fulvus* of my 'Birds of New Zealand' (2nd ed. vol. ii. p. 61). The specimens therein referred to as having come from the South, without any locality being assigned, must, I now feel assured, have come from the Snares. They reached me through dealers, and it is almost impossible, in such cases, to obtain reliable particulars.

XLVIII.—*Notes on the Indian Owls.*

By W. T. BLANFORD.

I HAVE recently examined a series of the Owls of India, Ceylon, and Burma for the purpose of describing the species in the concluding volume of the “Birds” in the ‘Fauna of British India,’ and have come to the conclusion that the number of species enumerated in Hume’s list of the Birds of India, published in 1879 (‘Stray Feathers,’ vol. viii. p. 83), may be reduced with advantage. That list contains 58 names, of which six, printed in italics, are regarded as either not Indian or not entitled to specific distinction, and two are doubtful. One Owl, *Syrnium biddulphi*, Scully, has since been described from within Indian limits (Ibis, 1881, p. 423), and although the distinctness of this form was doubted by Hume, I think it is entitled to separation, and I have found in the Hume collection two skins from Peshawur and the neighbourhood that I refer to it. On the other hand, in addition to the six forms marked as invalid or not Indian by Hume and the two species *Bubo turcomanus* (a local race of *B. ignavus*) and *Scops rufipennis* (= *S. giu*, var.) regarded by him as doubtful, I consider the following 14 forms not entitled to distinct specific rank—all being, I think, better classed as varieties or local races :—

- Strix deroepstorffi* (= *S. flammea*).
- Syrnium newarense* (= *S. indrani*).
- Scops minutus* (= *S. giu*).
- Scops sunia* (= *S. giu*).
- Scops nicobaricus* (= *S. giu*).
- Scops modestus* (= *S. balli*).
- Scops malabaricus* (= *S. bakkamoena*).
- Scops lettia* (= *S. bakkamoena*).
- Scops lempiji* (= *S. bakkamoena*).
- Carine pulchra* (= *C. brama*).
- Glaucidium malabaricum* (= *G. radiatum*).
- Ninox lugubris* (= *N. scutulata*).
- Ninox affinis* (= *N. scutulata*).
- Ninox burmanica* (= *N. scutulata*).

I also regard *Scops pennatus* as identical with *S. giu*, and *Scops plumipes* as a synonym of *S. semitorques*.

Several of the species mentioned were classed as subspecies

by Dr. Sharpe in the Catalogue of Birds (vol. ii. 1875), and most of the identifications have been clearly shown to be inevitable by Mr. Hume, for the supposed specific distinctions in many cases depend merely on a more or less rufous tint of the plumage, and this again, as Mr. Hume has also shown (*e. g.* 'Stray Feathers,' vol. ix. pp. 37, 41), is dependent on climate. As a rule, Owls living in damper regions are more rufous, those in drier tracts greyer. It may be remarked that a somewhat similar variation is found in the *Caprimulgi*. But the matter is by no means quite so simple as at first sight it may seem, for, as I shall presently show, there is a particular rufous phase, in one species at all events, that can scarcely be attributed to climate alone.

There is also another and very important form of variation which may, so far as India, Ceylon, and Burma are concerned, be expressed in the formula that northern birds are larger than southern. Birds from the Sub-Himalayan tracts are usually largest, those from Northern and Central India and from Northern Burma next, whilst a further diminution is found in the extreme south of India, in Ceylon, and in the Malay Peninsula. Sometimes, too, as in the case of *Ninox affinis*, a peculiarly small race inhabits the Andaman and Nicobar Islands; and in this particular instance the smallest birds are from the Andamans, which are, of course, north of the Nicobars. It should be added that this difference of size is not confined to Owls, nor even to birds; it is equally well marked in several other animals, and it has been especially noticed by Mr. Hampson amongst the moths.

Strix deroepstorffi is known by a single small tawny specimen from the Andamans. All the points of difference between this Andaman bird and the ordinary Indian race of *S. flammea* (*S. javanica*) are repeated in other insular races. *Syrnium newarensense* is the large Himalayan form, *S. indrani* the smaller race from the Indian Peninsula and Ceylon. As a rule, the southern birds have an ochreous, the Himalayan specimens a whitish disk, but the difference is not constant. Not only are Assamese and Burmese birds intermediate, but, as Davison has shown ('Stray Feathers,' vol. x. p. 342),

the coloration of the disk varies greatly in South-Indian specimens.

Glaucidium malabaricum is only a rufous form of *G. radiatum*, and the differences between *Ninox scutulata*, *N. lugubris*, and *N. burmanica* are neither constant nor important. The varieties of *Ninox scutulata* have been discussed at great length by Dr. Sharpe in the British Museum Catalogue, by Mr. Hume in various notes scattered throughout 'Stray Feathers,' and by the late Mr. Gurney (*Ibis*, 1884, p. 169), without any definite characters being laid down by which these various races can be discriminated. *Athene* or *Carine pulchra* is a small dark form of *A. brama* from Burma; very similar forms occur on the Malabar coast in the Indian Peninsula.

Before turning to the genus *Scops*, in which my reduction of the number of species is most important, there is one point that I ought to notice. Hume has repeatedly called attention to the fact that the typical *Syrnium nivicola* from Nepal and Sikhim is a much more rufous bird than the form of the same Owl from the Western Himalayas. I believe Hume was the discoverer of the latter; but he has never given it a name, and I conclude that he does not regard it as having any claim to separate specific rank, although he has also shown that the rufous colour is invariably present in the dozens of Sikhim skins obtained by Mandelli and others, whilst it is as invariably wanting in their Western Himalayan representatives. Now the difference between the two forms of *Syrnium nivicola* is quite as great as that between *Glaucidium radiatum* and *G. malabaricum*, and is, so far as the evidence exists, more constant, for Davison has shown that some Nilgiri specimens of *G. radiatum* are grey, others rufous.

Amongst the *Scops* Owls, in the first place, there can be little doubt that *Scops modestus* must be the young of *S. balli*. *S. modestus* is unquestionably immature, for it has the usual nestling-garb of *Scops*, which is distinguished from the majority of the Owls by having a special juvenile plumage, and Hume has shown ('Stray Feathers,' vol. ii. p. 493) that young specimens of *S. balli* resemble *S. modestus*. The

smaller size of *S. modestus* is simply due to immaturity, the specimens being evidently not full-grown. Both *S. balli* and *S. modestus* came from Port Blair, in the Andaman Islands, and it is very improbable that two distinct forms belonging to the same section of the genus should be found in the same locality.

The group of Scops Owls with a buff collar on the hind neck comprises two Indian forms—the one with the toes feathered above, *S. plumipes*, Hume (which I follow Dr. Sharpe in classing as a race or subspecies of the Japanese *S. semitorques*), and the widely-spread and variable Owl known from various parts of India and Burma as *S. lettia*, *S. lempiji*, *S. griseus*, and *S. malabaricus*. All of these I look upon as varieties or local races of one form, for which I follow several writers in adopting Pennant's name given to the Ceylonese bird, *S. bakkamæna*. *S. griseus* and *S. malabaricus* are simply the greyer and more rufous phases found in the drier and damper parts of the Indian Peninsula respectively, and are just as distinct or not distinct as *Glauucidium radiatum* and *G. malabaricum* or the Eastern and Western forms of *Syrnium nivicola*. That the Malayan *S. lempiji* is absolutely identical with *S. malabaricus* has been shown by a host of writers from Blyth (*e. g.* Ibis, 1866, p. 256) downwards. These three were all united—the two Indian forms as a subspecies of the Malayan—by Dr. Sharpe in his Catalogue. Blyth, it is true, at one time thought (Ibis, 1866, *l. c.*) that there were two species in the *S. lempiji* group distinguished by the colour of the irides (the distinction was noticed by Jerdon); but Hume, in his 'Rough Notes' (p. 396), has shown that the colour of the iris is variable.

Hitherto, however, the Himalayan *S. lettia* has been kept distinct from the southern forms on account of its large size and of the tarsal feathering extending somewhat farther on to the base of the toes, as shown in the figures at p. 96 of Dr. Sharpe's Catalogue. The large size of the Himalayan bird is in accordance with a general rule, and cannot, I think, be regarded as a specific distinction. The feathering of the

base of the toes in *S. lettia*, as shown in the figures quoted, is a very small difference, and on going over the large collections of Himalayan skins now available I find it to be extremely variable. In some cases the feathers run a little way down the basal phalanx of the middle and outer toes, whilst in others, again, I cannot see that there is any difference from the Malayan *S. lempiji*; and I am disposed to suggest, as the locality where this irregular additional feathering of the toes is found is also inhabited by the nearly-allied plume-toed *S. semitorques* (*plumipes*), that the examples of *S. lettia* with more feathering on the digits may possibly owe this peculiarity to a strain of *S. semitorques*. In any case I do not think *S. lettia* need be kept distinct from *S. bakkamæna* or *S. lempiji*.

The most difficult group of Scops Owls, that of *S. giu*, is the last that requires notice. In the first place, I may remark that *S. brucei*, which has now been traced from the Bombay Deccan to the Kuen-lun, and even, as I am informed by Mr. Dresser, as far as Bokhara and Transcaspia, is a perfectly distinct form, always to be recognized by having buff (not white) spots on the scapulars, and by the base of the toes being feathered. The other Indian Owls of this section, except *S. sunia* and *S. minutus* (the latter was described subsequently), were referred by Dr. Sharpe to *S. giu* as subspecies. Certainly they have no claim to any higher rank, although they have hitherto passed as *S. pennatus*. This form is supposed to differ from *S. giu* by being darker and more rufous, and Dr. Sharpe has noticed some small distinctions in the coloration of the aigrettes and ear-coverts. But Blyth long since regarded the two as identical, and Jerdon was doubtful as to their separation. The fact appears to be that specimens from the Punjab and Sind are absolutely identical with birds from Western Asia—that is, with typical *S. giu*; that in the damper portions of India a more rufous and darker plumage prevails, and that to the southward a smaller form is found—*S. rufipennis* in Madras, *S. malayanus* in Malacca; while a still smaller and darker bird inhabits Ceylon—*S. minutus* of Legge.

All these forms, however, differ from each other much as other Owls do, those from drier tracts being greyer, those from damper countries more rufous, and the size diminishing to the southward. It ought to have been previously mentioned that, so far as is known, none of the forms of *Scops giu* breed in the plains of India; all appear to migrate to the hills at the breeding-season, so it is easy to understand how local races like *S. minutus* and *S. malayanus* may originate. But throughout the area there are found Owls much more rufous than ordinary, and these, when the upper parts are clear cinnamon, rufous, or chestnut, are known as *S. sunia*. Jerdon ('Birds of India,' i. p. 136) and Blyth (*Ibis*, 1863, p. 27, 1866, p. 255) have unhesitatingly identified *S. sunia* with *S. giu* (which, however, they knew by other names); but Hume, in his 'Rough Notes,' p. 389, questioned this decision, because Captain Hutton had found rufous nestlings, and because, although Blyth had stated that a complete gradation was shown by the skins in the Calcutta Museum, Hume's examination of the skins did not lead him to the same conclusion. With regard to the discovery of rufous nestlings, an idea seems to have been prevalent amongst some Indian ornithologists that the chestnut garb is assumed at particular ages or in particular seasons, but I cannot find any evidence to support this view. Hume, however, in subsequent notes (*e.g.* 'Nests and Eggs,' p. 65) insisted on the distinction between *S. sunia* and *S. giu* (*pennatus*), and declared that they never pass into each other. He described a skin, from the Nicobar Islands, of a darker and more ferruginous tint than ordinary *S. sunia*, but with some of the usual vermiculations of *S. giu* on the upper plumage, as a new species, *S. nicobaricus*. Subsequently Captain Wardlaw Ramsay obtained another Nicobar specimen, described by Mr. Gurney in 'The Ibis' for 1884, p. 172, as having more unbroken colour than any other rufous Owl he had examined. Nevertheless, he referred it to *S. nicobaricus*.

Now there are in the Hume collection Malaccan specimens precisely similar to the type of *Scops nicobaricus*. These

specimens are connected by others with typical *S. malayanus*, which is, I think, certainly a mere variety of *S. giu*. But under these circumstances this singularly rufous Nicobar specimen by itself shows that *S. sunia* is merely a rufous phase. For in all the continental specimens of *S. sunia*, although all the blackish markings on the upper parts and on the wing- and tail-feathers have disappeared, the very characteristic stippling and dark shaft-stripes of the breast are conspicuous, whereas in the Nicobar skin the dark markings on the lower surface have disappeared, whilst those on the wing- and tail-feathers are retained. It is clear that the rufous coloration is a peculiar phase of plumage, and that the extent to which the brown and black markings of *Scops giu* are obliterated varies in different cases.

Another and very strong piece of confirmatory evidence is that to each local race of *S. giu*, so far as such races can be distinguished by size or deeper coloration, there is a corresponding form of *S. sunia*. The rufous Nicobar bird just mentioned is of a deeper chestnut than any Indian specimen, and there is a race in Ceylon, described by Legge as *S. sunia*, that differs from the Indian bird just as the Ceylonese *S. minutus* differs from *S. pennatus*, in being considerably smaller and more deeply coloured. It is, I think, impossible to come to any other conclusion than that these rufous Owls bear the same relation to the normal grey or brown forms that melanistic varieties of several kinds of Buzzards, for instance, do to the specimens in ordinary plumage. And in regard to the argument which has been brought forward, with some show of reason, against the union of *Scops pennatus*, with its excessively rufous phase, and of *S. giu*, in which no such phase is known, it should be remembered that the remarkable melanistic form of *Buteo ferox* (*B. fuliginosus*, Hume) has been found only in the Himalayas and North-western India, and has never been observed in the remainder of the vast area over which *B. ferox* ranges.

The genus *Huhua*, originally proposed by Hodgson for *H. nipalensis*, has been united to the genus *Bubo* by most ornithologists, but was kept distinct by Gurney, who attached

much importance to the colour of the iris, and by Jerdon. There are several minor details of structure in which *Huhua* differs from *Bubo ignavus*, the type of the genus; but I should not have attached generic importance to them had it not been for another character, hitherto, I think, unrecognized. This is that in *H. nipalensis* and *H. orientalis* the nestlings have a perfectly distinct barred plumage, somewhat like that of young Scops Owls, whilst, so far as I am aware, typical *Bubo* has not a distinct immature dress. When to this important distinction are added the differently-coloured iris, dark in *Huhua*, yellow in *Bubo*, and the much more rounded wing of the former, besides some minor distinctions in the bill and feet, the differences between the two types may, I think, be fairly regarded as of generic importance.

XLIX.—*On some Birds from the Island of Negros, Philippines.* By WM. EAGLE CLARKE, F.L.S.

MR. JOHN MACLAUCHLAN, the Director of the Dundee Museum, has kindly submitted to me for identification a small collection of Philippine birds, presented to that institution by Mr. W. A. Keay.

Regarding these specimens it is important and satisfactory to know that all of them were shot by Mr. Keay himself on the east coast of the Island of Negros, so that their authenticity is beyond question.

The researches of the late Marquis of Tweeddale and others, and especially those of Professor Steere, have made us cognizant of the fact that some extremely interesting zoogeographical peculiarities are associated with the distribution of bird-life over the Philippine group, rendering it very desirable that the avifauna of each island should be ascertained in detail, and to this end these notes are contributed.

The collection under consideration comprises examples of only twenty-five species; but its interest and value lie in the fact that no less than about one-third of them are believed to be new to the ornis of Negros, some of them

being additions of importance from a distributional point of view, while one, the rare *Chaetura celebensis*, is an addition to the fauna of the Philippines.

The large proportion of species new to Negros contained in this collection probably indicates that much remains to be accomplished before the ornithic survey of this island can be considered as fairly complete. We know, too, from recent contributions to this Journal, that the same remark applies to other islands of the group. When the still-desirable and necessary investigations have been undertaken, and their results published, it may, perhaps, be possible to point to a law of distribution, which, to quote Professor Steere, "if established, must have great influence upon the theories for the creation of species."

To the list of species I have added a few remarks on the plumage, &c., of certain of them, in the hope that they may be regarded as useful addenda to the published descriptions.

Where a species has been previously recorded for the Island of Negros, I have not thought it necessary to make any annotations regarding it in the subjoined list.

1. *SARCOPS CALVUS* (Linnæus).

2. *CINNYRIS GUIMARASENSIS*, Steere, List of Birds and Mamm. collected in the Philippines, p. 22 (1890).

This comparatively new species has hitherto been recorded for the Island of Guimaras only. The Negros specimen is a male, for the identification of which I am indebted to Dr. Bowdler Sharpe.

3. *CINNYRIS SPERATA* (Linnæus).

4. *CINNYRIS JUGULARIS* (Linnæus).

Male and female.

5. *ANTHOTHREPTES CHLOROGASTER*, Sharpe.

Male.

6. *DICÆUM HÆMATOSTICTUM*, Sharpe.

7. *COPSYCHUS MINDANENSIS* (Gmelin).

8. *CHÆTURA CELEBENSIS*, Selater (Hart. Cat. B. xvi. p. 476).

This species is an addition to the Philippine avifauna. It is also an extreme rarity, the only other specimens at present known to exist in any collection being the two types in the Leyden Museum, which were obtained at Menado, Celebes.

The following notes on the plumage and dimensions of the Negros specimen may be usefully recorded:—The back is an admixture of dark brown, or brownish black, and deep steel-blue, each feather having a broad subterminal band of blue with an edging of dark brown, which conceals the blue to a considerable extent, so that the brown predominates. The tail and secondaries are glossed with green and blue in about equal proportions. Total length 9·5 inches, wing 8·5, tail 2·88, tarsus ·70.

Mr. Hartert has kindly examined this specimen, and confirmed my suspicions as to its identity.

9. *EURYSTOMUS ORIENTALIS* (Linnæus).

10. *PELARGOPSIS GIGANTEA*, Walden.

This species is, I believe, new to the fauna of Negros. It is not included for the island in Major Wardlaw Ramsay's "Revised List of the Birds of the Philippine Islands" ('Tweeddale Memoir,' pp. 653–660, 1881); Prof. Steere ('List of Birds and Mamm. collected in the Philippines,' p. 9, 1890) did not meet with it there, nor is any specimen from Negros mentioned by Dr. Sharpe (Brit. Mus. Cat. xiii. p. 100, 1892) as existing in the National Collection.

The dimensions of this specimen are:—total length 14·5 inches, culmen 3·5, wing 6·5, tail 3·9, tarsus 0·6, and indicate an unusually fine example.

11. *HALCYON CHLORIS* (Boddaert).

12. *HALCYON GULARIS* (Kuhl).

13. *PENELOPIDES PANINI* (Boddaert).

Male and female.

14. *CRANIORRHINUS WALDENI*, Sharpe, Journ. Linn. Soc., Zool. xiii. pp. 155–6 (1876).

Male.

This species is new to Negros. The type specimen was obtained on the Island of Panay by Professor Steere, who procured this bird also on Guimaras; but I am not aware that it has been obtained elsewhere in the Philippines.

15. *CHRYSOCOLAPTES XANTHOCEPHALUS*, Walden & Layard.

Adult male. This specimen differs in some important respects from the specimen described in the Brit. Mus. Cat. (xviii. p. 457), and I had to seek Mr. Hargitt's kindly aid for its identification.

This bird has an orange malar stripe; has rounded white marginal spots on the inner webs of all the quills, *including the outer primaries*, where none of these spots are confluent; the partially concealed spots on the head are buff; and the lower under tail-coverts are dull buff, with a dusky central stripe.

This species has been previously recorded for Negros.

16. *THRIPONAX HARGITTI*, Sharpe.

This Woodpecker has hitherto been obtained in the Island of Palawan only, and its occurrence in the somewhat distant Island of Negros is, perhaps, as surprising as it is interesting. It is an adult male.

17. *LORICULUS REGULUS*, Souancé.

18. *NINOX PHILIPPENSIS*, Bonaparte.

19. *SPILORNIS HOLOSPILUS* (Vigors).

I have not been able to trace this bird's previous occurrence in Negros. It appears, however, to be widely distributed over the group to the north, south, and east of Negros.

This specimen is in immature plumage. The feathers of the crest are white at the base, with a subterminal band of black, and are narrowly edged with rufous buff.

20. *BUTASTUR INDICUS* (Gmelin).

21. *POLIOAËTUS ICHTHYAËTUS* (Horsfield).

22. *HALIASTUR INTERMEDIUS*, Gurney.

23. *ELANUS HYPOLEUCUS*, Gould.

24. *GALLICREX CINEREA* (Gmelin).

This bird is probably here recorded for the first time for Negros, for I have failed in my endeavours to find any information regarding its occurrence in the island.

25. *ARDEA GARZETTA*, Linnæus.

L.—On a new Species of Guinea-fowl.

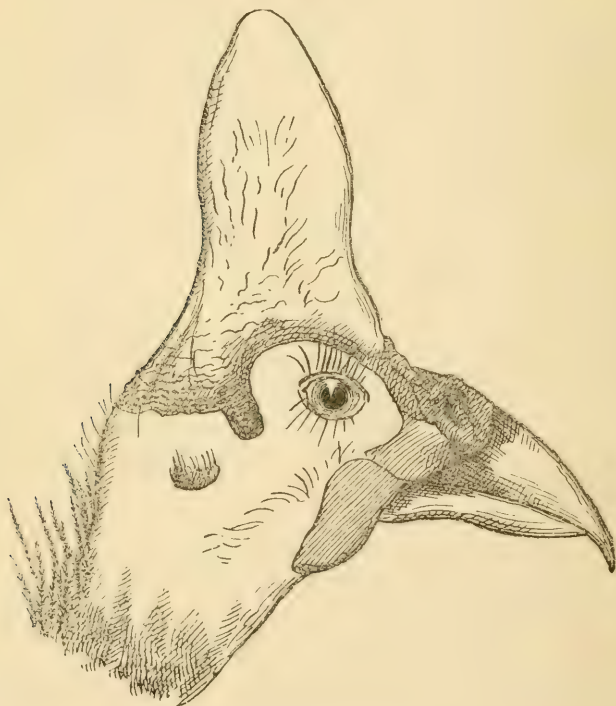
By W. R. OGILVIE GRANT.

THE large-helmeted Guinea-fowl found in the countries which lie to the north of Lake Nyasa and west of Lake Tanganyika has hitherto always been identified with *Numida coronata**, a native of the countries between the Zambesi and Cape Colony. When I wrote the 'Catalogue of the Game Birds' I had only seen one example of the northern bird—an adult male obtained by Mr. F. J. Jackson at Makarungu in the Ukambani District. Although I then noted the different shape of the helmet in this bird as compared with typical *N. coronata* from the Transvaal, I was inclined to consider the difference due to individual peculiarity, the more so as Fischer and Böhm had obtained many examples in East Africa, all of which had been referred to *N. coronata* by the German ornithologists. A few months ago Dr. Reichenow sent Mr. Selater a second specimen of the northern form, obtained in German East Africa, and a living example of the same bird, procured at Zanzibar, may now be seen alive in the Zoological Society's Gardens. Mr. Selater and I have compared both Mr. Jackson's and Dr. Reichenow's specimens once more with typical *N. coronata*, and have come to the conclusion that

* [This name, which was based by G. R. Gray on a specimen from "South Africa" presented to the British Museum by General Hardwicke (cf. Cat. Birds, xxii. p. 376), was published in Gray's Catalogues of 1844 and 1867, but without any description. The first published description of the species appears to be that given by Gurney in 1868 in his notes on Mr. Layard's 'Birds of South Africa' (Ibis, 1868, p. 253). The species should therefore be called "*Numida coronata*, Gurney," when the authority is appended.—ED.]

the northern birds form a distinct and well-marked species, which I propose to call *Numida reichenowi*. All the three specimens examined differ constantly from the southern form in having the helmet rising *vertically* from the skull. In *N. coronata* the helmet slopes obliquely backwards. These differences are faithfully shown in the accompanying figures, which I have sketched from the typical specimens.

Fig. 1.

Head of *Numida reichenowi*.

The only other differences are that in *N. reichenowi* the wattles at the gape are entirely crimson-red, while in *N. coronata* they are pale blue, tipped with red; and that in the former subspecies the black feathers up the middle of the back of the neck have decomposed webs, and are not mere hair-like shafts with a few lateral vanes.

The range of *N. reichenowi* extends in the south-east to the Pangani River, westwards to Kakoma, and northwards to Teita, Ukambani, and the countries to the south of Victoria Nyanza.

N. coronata, G. R. Gray, is, so far as I know, found only in Eastern South Africa, from the southern shores of the Zambesi to Cape Colony.

Fig. 2.



Head of *Numida coronata*.

So far as I am aware no specimen of a large-helmeted Guinea-fowl has been obtained between the north bank of the Zambesi and the Pangani River: should such occur it will be interesting to see to which form it belongs.

The figure of *N. coronata* given by Elliot in his monograph of the *Phasianidae* has the colours of the soft parts entirely wrong, the sides of the face, wattles, and upper

parts of the neck being painted red instead of pale blue. The cere and the basal part of the bony helmet are red in both *N. coronata* and *N. reichenowi*; both have the sides of the face and neck pale blue; the former has the basal half of the wattle blue and the terminal half red, while in the latter it is entirely red.

The type of *N. reichenowi* is an adult male, obtained at Makarungu, Ukambani District, East Africa, on the 17th February, 1889, by Mr. F. J. Jackson. It measures as follows:—Total length 20·5 inches, wing 11·0, tail 6·0, tarsus 3·1, middle toe and claw 2·65.

Type of *N. coronata*:—Total length about 20·0 inches, wing 11·5, tail missing, tarsus 3·1, middle toe and claw 2·85.

LI.—*Bornean Notes*: No. III.* By R. BOWDLER SHARPE, LL.D., F.L.S., &c.

X. *Further Additions to the Avifauna of Mt. Kina Balu.*

MR. EVERETT'S hunters have been working on the eastern side of Kina Balu, and have procured examples of several species of interest, amongst which are two new to the avifauna of the mountain. These are:—

1. *GEOCICHLA INTERPRES* (Temm.); Seeböhm, Cat. B. Brit. Mus. v. p. 166.

An adult male procured in January.

This species has already been registered as procured in Bornco by Dr. C. F. Adams at Sandakan. (*Cf.* Elliot, Auk, vii. p. 348.)

2. *ARACHNORHAPHIS FLAVIVENTRIS*.

Arachnorhaphis flavigastra (vox hybrid.) ; Everett, Journ. Straits Branch R. As. Soc. 1889, p. 138.

A female from Kina Balu in January.

Besides these there are also examples of the following species:—

* For No. II. see above, p. 421.

ORIOLOUS VULNERATUS.

Oriolus vulneratus, Sharpe ; Everett, t. c. p. 119.

Mr. Everett has received two young examples of this Oriole, neither of which has any red on the wings. One is entirely black all over, and the other has some rusty feathers on the chest.

ARBORICOLA ERYTHROPHRYS.

Bambusicola erythrophrys, Sharpe ; Everett, t. c. p. 200.

Arboricola erythrophrys (Sharpe) ; Grant, Cat. B. Brit. Mus. xxii. p. 218.

By the kindness of the authorities I have been enabled to compare once more the type of *A. hyperythra* in the Oxford Museum with the fine series of skins of *A. erythrophrys* brought back by Mr. Everett's collectors from Kina Balu. I fully expected to find that the two species would turn out to be identical, but after a re-examination of the type of *A. hyperythra* it is impossible to unite them—at least on the present evidence. *A. hyperythra* has a broad grey band extending from the back of the eye down the sides of the neck, exactly as it is depicted in Gould's plate in the 'Birds of Asia.' At the same time it has a jet-black head.

The name *erythrophrys* must be considered unfortunate, except that it may be taken as meaning the bare red skin round the eye ; but it was intended, of course, to indicate a reddish *eyebrow*, a character plain enough in Mr. Whitehead's typical birds. It would seem, however, from the series now before me, that this rufous eyebrow entirely disappears, and the whole head becomes black, while in other instances the eyebrow is grey.

Judging from Mr. Everett's specimens, the young birds have the throat buffy white, with the head brown slightly spotted with black, as well as a dull grey eyebrow, faintly washed with rufous.

The fully adult bird appears to have the head black, as well as the upper throat ; but there is evidently considerable irregularity in the way in which these are gained, and the eyebrow, whether grey or rufous, is absorbed at last in the

black of the head. The females have no black on the throat, and have the black bars on the back continued right up to the mantle and the back of the head, these parts being very feebly banded in the males.

Mr. Everett and Mr. Ogilvie Grant have studied these specimens along with me, and this is the conclusion we all agree upon.

XI. *Notes on Birds collected in Northern Borneo by
Mr. A. H. Everett.*

PHYLLOSCOPUS XANTHODRYAS, Swinh. ; Everett, t. c. p. 97.

A young male from Bongon, Marudu Bay, killed on the 6th of January.

CITTOCINCLA STRICKLANDI.

Cittocincla stricklandi, Salvad. ; Everett, t. c. p. 100.

Dr. Guillemard (P. Z. S. 1885, p. 415) published a note on the Shama of Banguay, which he thought was smaller than the ordinary form of the mainland of Borneo, and had the lower back washed with orange. Mr. Everett has two specimens from the island of Banguay, and there is absolutely no difference, so far as I can see, between the Banguay and the Labuan birds. The feathers of the flanks impinge on the lower back, and this is doubtless the cause of Dr. Guillemard's idea that the lower back had an orange wash.

MOTACILLA OCULARIS.

Motacilla ocularis, Swinh. ; Sharpe, Cat. B. Brit. Mus. x. p. 471.

A young specimen from Banguay Island. One from Baram has already been recorded by Mr. Everett (Ibis, 1890, p. 465).

TURDINUS ATRIGULARIS.

Turdinus atrigularis, Bp. ; Everett, t. c. p. 109.

Mr. Everett has procured a nestling of this species from Bongon, Marudu Bay. It reproduces the colours of the adult on the upper surface, but has the mesial rufous streaks much broader. The abdomen is entirely rufous, with a few breast-feathers edged rather broadly with black.

.

HEMICHELIDON CINEREICEPS.

Hemichelidon cinereiceps, Sharpe; Everett, t. c. p. 127.

After careful consideration I have come to the conclusion that this species is the same as *H. ferruginea*. Mr. Everett has examples from Palawan (February) and from Kina Balu (November and January). Mr. Whitehead's original specimens were obtained in February, and Mr. Everett has also shot a young bird in spotted plumage in Labuan in November. As these dates fall under the time of the N.E. monsoon, when migratory species swarm into Borneo, there can be little doubt, as Mr. Everett points out to me, that the species is a visitor.

ANTHIPES OLIVACEA.

Anthipes olivacea (Hume); Sharpe, Ibis, 1893, p. 559.

From Bongon, Marudu Bay, Jan. 3, 1893.

Bill black; legs pinkish grey; iris dark brown.

CUCULUS INTERMEDIUS.

Two specimens from Labuan (♂, Sept. 20, 1892; Oct. 8, 1892), measuring 6·8 and 7·7 inches in the wing.

Calidris arenaria (L.); Seebohm, Ibis, 1892, p. 469.

An immature bird from Labuan, Oct. 1891. This makes the third example recorded from Borneo—the first (1881) having been the Tampussak-River example spoken of by Mr. Seebohm (*l. c.*), while the second (1890) was recorded by Mr. Everett from Baram Point (Ibis, 1890, p. 465).

NYCTICORAX MANILLENSIS.

Nycticorax manillensis (Vig.); Everett, t. c. p. 190.

Two young birds from the Lower Padas River. Until old birds are obtained it will be difficult to determine the species positively, but I think there is very little doubt of this identification being correct.

NYCTICORAX NYCTICORAX (L.).

Nycticorax griseus (Gm.); Everett, t. c. p. 190.

A fine adult bird in full breeding-plumage, obtained on the Lawas River on the 25th March.

BUTORIDES AMURENSIS (Schrenck) ; Sharpe, Bull. B. O. C. iii. p. xvii.

A young female from Labuan, Oct. 20, 1892. Legs and feet bright yellowish green.

XII. *On a Collection of Birds from Mount Mulu in Sarawak.*

Mr. Hose has sent home a collection made by his hunters on this hitherto unexplored mountain*, between the months of September and December 1893. I give a list of the species, adding references to Mr. Everett's list and the elevations at which they were obtained. It is evident that Mt. Mulu belongs to the same system of the Himalayan offshoots, such as Kina Balu, Dulit, and Kalulong in Sarawak and North-western Borneo. The collection from Mt. Mulu has proved somewhat disappointing, as from its being a limestone mountain I had hoped that some peculiar forms might have occurred, such as *Gypsophila* in Tenasserim (*cf.* Oates, Faun. Brit. Ind., Birds, i. p. 149, 1889).

<i>Phylloscopus borealis</i> (op. cit. p. 96). 3000 feet.	<i>Malacopteryx cinereum</i> (p. 105). 1000–2000 feet.
<i>Myiophonus borneensis</i> (p. 98). 3000–4000 feet.	— <i>magnum</i> (p. 106). 2000 feet.
<i>Trichixus pyrrhopygus</i> (p. 99).	— <i>affine</i> (p. 106). 1000 feet.
<i>Cittocincla suavis</i> (p. 100). 2000 feet.	— <i>albigulare</i> (p. 106). 1000– 3000 feet.
<i>Henicurus borneensis</i> (p. 100). 2000 feet.	<i>Alcippe cinerea</i> (p. 106). 3000– 4000 feet.
<i>Hydrocichla frontalis</i> (p. 100). 2000 feet.	<i>Staphidia everetti</i> (p. 107). 2000– 4000 feet.
— <i>ruficapilla</i> (p. 101). 1000– 2000 feet.	<i>Herpornis brunnescens</i> (p. 107). 4000 feet.
<i>Pomatorhinus borneensis</i> (p. 104). 1000–4000 feet.	<i>Eupetes macrocerus</i> (Ibis, 1893, p. 388). 2000 feet.
<i>Stachyris nigricollis</i> (p. 104). 1000 feet.	<i>Macronus ptilosus</i> (p. 108). 2000– 3000 feet.
— <i>leucotis</i> (p. 104). 2000 feet.	<i>Turdinus canicapillus</i> (p. 108). 3000–4000 feet.
— <i>borneensis</i> (p. 105). 1000 feet.	— <i>atrigrularis</i> (p. 109). 3000 feet.
— <i>maculata</i> (p. 105). 1000 feet.	— <i>kalulongæ</i> (Ibis, 1893, p. 548). 4000 feet.
<i>Cyanoderma bicolor</i> (p. 105). 1000–3000 feet.	

* [See Mr. Hose's paper and map, Geogr. Journ. i. p. 193 (1893).—ED.]

- Erythrocichla bicolor* (op. cit. p. 109). 1000 feet.
- Drymocataphus capistratoides* (p. 109). 1000 feet.
- Kenopia striata* (p. 109). 1000–2000 feet.
- Ptilopyga leucogrammica* (p. 110). 1000 feet.
- Amaluropsis malaccensis* (p. 110). 2000 feet.
- Turdinulus exsul* (p. 111). 3000 feet.
- Orthonocichla whiteheadi* (p. 110). 4000 feet.
- Hemixus connectens* (p. 111).
- Microtarsus melanocephalus* (p. 112). 2000 feet.
- *melanoleucus* (p. 112). 2000 feet.
- Criniger diardi* (p. 113). 2000 feet.
- *gutturalis* (p. 113). 1000 feet.
- *ruficristus* (p. 113). 1000 feet.
- Tricholestes criniger* (p. 114). 2000 feet.
- Pycnonotus simplex* (p. 115). 1000–3000 feet.
- Rubigula webberi* (p. 115). 4000 feet.
- *paroticalis* (p. 115). 1000 feet.
- *montis* (p. 115). 2000 feet.
- Ægithina viridissima* (p. 116). 2000 feet.
- Chloropsis zosterops* (p. 116). 2000 feet.
- *cyanopogon* (p. 116). 4000 feet.
- *kinabaluensis* (p. 117). 4000 feet.
- Irena criniger* (p. 117). 1000–2000 feet.
- Oriolus hosei* (Ibis, 1893, p. 393). 4000 feet.
- Oriolus xanthonotus* (op. cit. p. 119). 1000–2000 feet.
- Dendrophila corallipes* (p. 120). 1000–3000 feet.
- Pityriasis gymnocephala* (p. 121). 1000 feet.
- Hemipus picatus* (p. 123). 4000 ft.
- Chibia borneensis* (p. 123). 1000 feet.
- Chaptia malayensis* (p. 124). 2000 feet.
- Dissemurus platurus* (p. 124). 2000–3000 feet.
- Lalage culminata* (p. 126). 4000 feet.
- Hemichelidon sibirica* (p. 126). 2000–3000 feet.
- Rhipidura perlata* (p. 129). 2000–4000 feet.
- Terpsiphone affinis* (p. 130). 1000 feet.
- Philentoma velatum* (p. 130). 1000–2000 feet.
- *pyrrhopterum* (p. 130). 1000 feet.
- Rhinomyias pectoralis* (p. 130). 1000–4000 feet.
- Culicicapa ceylonensis* (p. 131). 1000–2000 feet.
- Stoparola thalassinoides* (p. 132). 1000 feet.
- Siphia unicolor* (p. 132). 1000 feet.
- Æthopyga temminckii* (p. 135). 2000–4000 feet.
- Anthothreptes hypogrammica* (p. 136). 1000–2000 feet.
- *simplex* (p. 136). 3000–4000 feet.
- *phænicotis* (p. 137). 3000 feet.
- Arachnothera longirostris* (p. 137). 1000–4000 feet.
- *chrysogenys* (p. 138). 1000–4000 feet.
- Arachnorhaphis crassirostris* (p. 138). 2000 feet.

- Dicæum trigonostigma* (p. 139). 3000–4000 feet.
Prionochilus xanthopygius (p. 140). 2000–4000 feet.
 — *thoracicus* (p. 140). 2000–4000 feet.
 — *maculatus* (p. 140). 1000–2000 feet.
Calornis chalybea (p. 143). 3000 feet.
Eulabes javanensis (p. 144). 1000 feet.
Artamus leucorhynchus (p. 144). 2000 feet.
Platysmurus aterrimus (p. 146). 3000 feet.
Platylophus coronatus (p. 147). 2000 feet.
Pitta cyanoptera (p. 147). 2000 feet.
 — *granatina* (p. 148). 1000–2000 feet.
 — *arcuata* (p. 148). 2000–4000 feet.
 — *baudi* (p. 149). 1000 feet.
 — *schwaneri* (p. 149). 2000–3000 feet.
Calyptomena hosei (Ibis, 1892, p. 438). 2000–3000 feet.
 — *viridis* (op. cit. p. 150). 1000–3000 feet.
Eurylæmus ochromelas (p. 150). 4000 feet.
 — *javanicus* (p. 150). 1000 feet.
Cymbirhynchus macrorhynchus (p. 151). 1000 feet.
Xylolepes validus (p. 154). 2000 feet.
Lepocestes porphyromelas (p. 155). 1000 feet.
Thriponax javensis (p. 157). 1000 feet.
Gauropicoides rafflesi (p. 157). 4000 feet.
Miglyptes grammithorax (p. 158). 1000 feet.
- Halcyon pileata* (p. 160). 500 feet.
 — *concreta* (p. 161). 1000 feet.
Carcineutes melanops (p. 161). 1000–4000 feet.
Buceros rhinoceros (p. 162). 2000–3000 feet.
Anthraceros malayanus (p. 162). 2000 feet.
Cranorrhinus corrugatus (p. 163). 1000 feet.
Anorrhinus galeritus (p. 163). 600–2000 feet.
Nyctiornis amicta (p. 164). 2000 feet.
Batrachostomus stellatus (p. 165). 3000 feet.
Harpactes whiteheadi (p. 166). 4000 feet.
 — *diardi* (p. 166). 1000–2000 feet.
 — *kasumba* (p. 166). 2000–4000 feet.
 — *duvauceli* (p. 166). 1000–4000 feet.
Zanclostomus javanicus (p. 175). 1000 feet.
Carpococcyx radiatus (p. 175). 1000 feet.
Scops brookii (Ibis, 1893; p. 417). 3000 feet.
Macropygia ruficeps (op. cit. p. 193). 3000–4000 feet.
Carpophaga badia (p. 195). 3000 feet.
Treron baramensis (Ibis, 1893, p. 421). 1000–2000 feet.
 — *olax* (op. cit. p. 196). 3000 feet.
Argusianus grayi (p. 197). 1000–2000 feet.
Lobiophasis bulweri (p. 198). 1000–2000 feet.
Acomus pyronotus (p. 199). 1000 feet.
Lophura ignita (*Euplocamus nobilis*, op. cit. p. 199). 1000 feet.

XIII. *Additions to the Avifauna of Mount Dulit.*

In a collection formed by Mr. Ernest Hose on this mountain occur the following species not as yet recorded from Mt. Dulit:—

BATRACHOSTOMUS AURITUS.

Batrachostomus auritus (Gray) ; Hartert, Cat. B. Brit. Mus. xvi. p. 637.

Examples are in the Museum from Labuan and Trusan. Mr. Hose's specimen was obtained in February, at an elevation of 1000 feet only.

FALCO ERNESTI, sp. n.

F. similis F. melanogeni, sed nigricantior, subtus ubique cinereo adumbratus, et subalaribus axillaribusque nigris, lineis parvulis albis transfasciatis. Long. tot. 15·5 poll., alæ 11·6, caudæ 5·5, tarsi 1·9.

Ever since the Museum received from Mr. Pretyman the extraordinary Peregrine Falcon which Mr. Gurney described in the 'Ibis' for 1882 (p. 302), I have felt convinced that it would be found to represent a resident form inhabiting the Indo-Malayan islands. I was therefore very pleased to receive from my friend Mr. Charles Hose two specimens of the same form of Peregrine from Mt. Dulit. These consist of an adult male and a half-grown nestling, which were obtained by Mr. Ernest Hose at a height of 4500 feet; the female was also shot, but it fell down some hundreds of feet of precipice and was never found.

"The nest," writes Mr. Hose, "was on a ledge of the sandstone cliff 50 feet high, without anything but the rock to catch hold of. My brother waited patiently for seven days while a ladder of rattans and trees was being made, and then succeeded in getting the young one."

The adult male is a remarkably beautiful specimen, and is evidently of the same race of Peregrine as Mr. Pretyman's bird from the Lawas River, but is not quite so red on the chest. The closeness of the barring of the under wing-coverts and axillaries is remarkable and gives the species a much blacker look than *F. melanogenys*, while no specimen

of the last-named Falcon in the Museum has the under tail-coverts and thighs bluish grey like the sides of the body. Whether *Falco ernesti* (as I have named the bird, after Mr. Ernest Hose) is confined to Borneo I cannot yet tell, but I think that it is very likely to be found to be the *resident* form of all the Indo-Malayan islands, as a specimen procured by Mr. Maitland-Heriot in Manila seems certainly referable to it.

RHIZOTHERA LONGIROSTRIS.

Rhizothera longirostris (T.); Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 183.

A male and female from 4000 feet, procured in February and March.

LII.—*Bulletin of the British Ornithologists' Club.*

No. XIX. (June 30th, 1894.)

THE eighteenth meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 20th of June, 1894.

Chairman : P. L. SCLATER, F.R.S.

Members present :—A. H. EVANS, A. H. EVERETT, W. R. OGILVIE GRANT, E. HARGITT, E. HARTERT, L. H. IRBY, A. P. LOYD, J. G. MILLAIS, R. H. READ, HON. W. ROTH-SCHILD, HOWARD SAUNDERS, R. BOWDLER SHARPE, G. E. SHELLEY, JOHNSON WILKINSON, C. A. WRIGHT, JOHN YOUNG.

Visitor : Mr. NESHAM.

THE SECRETARY and TREASURER presented a Draft of the amended Rules, and these were adopted *nem. con.* He then stated that the Club contained 102 Members who had paid their subscriptions, and that there was a substantial working balance in the treasury.

Mr. SCLATER exhibited skins of three rare Parrots (*Ara auricollis*, *Pionus lacerus*, and *Chrysotis tucumana*), obtained by Herr Paul Neumann in Tucuman and Jujuy, Argentina

(see Reichenow, Orn. Monatsb. ii. p. 66). These species had not been included in Selater and Hudson's 'Argentine Ornithology.' The specimens were duplicates of the Berlin Museum, and had been kindly sent to Mr. Selater in exchange.

Mr. SELATER also exhibited two eggs of *Phibalura flavirostris* (Fam. *Cotingidæ*), hitherto quite unknown, obtained in the vicinity of Rio Janciro, and sent to him by Dr. E. A. Goeldi, with a paper describing the nesting of this bird, which would be published in the October number of 'The Ibis.'

A letter was read from Professor O. TASCHENBERG, of Halle-a/S., pointing out that the conclusions of Dr. Wickmann, with regard to the origin of the coloration of bird's eggs (*cf.* Bull. no. xv. p. xxvi), had already been insisted upon by him in the 'Zoologischer Anzeiger' for 1885 (vol. viii. p. 243).

The Hon. WALTER ROTHSCHILD exhibited co-types of *Eos histrio talautensis*, *Zeocephus talautensis*, *Hermotimia talautensis*, *Pitta inspeculata*, and *Oriolus melanisticus*, all recently described by Messrs. A. B. Meyer and L. W. Wigglesworth from the Talaut Islands, Kabruang, and Salibabu.

Mr. ROTHSCHILD also exhibited some rare Japanese birds, among them a pair of *Parus owstoni*, Ijima, from Miyakeshima, Seven Islands, Izu, south of Japan. The species had been described in 'Dōbutsugaku Zasshi,' no. 62, December 1893. *Parus owstoni* somewhat resembled *P. varius*, Temm. & Schleg., but differed obviously in its much larger bill and feet and its greater size altogether, in the deep rufous sides of the head and forehead, the mark on the occiput, and the colour of the back. It was not a strictly typical form of the genus *Parus*.

Mr. ROTHSCHILD laid on the table a typical specimen of *Aithya polytmus* (Linn.), from Jamaica, and two others

which had a large ruby-coloured spot on the throat. These latter had been collected by Mr. C. B. Taylor in one locality in the district of St. Andrew, to the north of Kingston, Jamaica, where he had frequently met with this ruby-throated form. Mr. Rothschild considered the ruby spot to be a sufficient character for the recognition of a distinct local race, which he named *Aithurus taylori*, after its discoverer.

MR. ROTHSCHILD also exhibited a specimen of *Diomedea immutabilis*, described by him from Laysan Island. It had been shot by Mr. Owston's collector on Miyakeshima, October 30th, 1893.

DR. JULIUS VON MADARÁSZ communicated the description of two apparently new species of birds from the Finisterre Mountains in Eastern New Guinea, collected by Mr. Samuel Fenichel for the Hungarian National Museum. Dr. von Madarász proposed to call these new species

PÆCILODRYAS HERMANI, sp. n.

P. similis P. hypoleucæ, sed intensè nigra, minimè vero schistacea vel brunnescenti-nigra, supercilio albo lato, et speculo alari albo multo majore distinguenda. Long. tot. 5 poll., alæ 3·1.

Hab. in montibus Novæ Guineæ 'Finisterre' dictis.

DONACICOLA SHARPII, sp. n.

D. similis D. castaneithoraci, sed supracaudalibus et rectricibus centralibus intensè castaneis, et pileo clarè margaritaceo cano distinguenda. Long. tot. 4 poll., alæ 2·05.

Hab. in montibus 'Finisterre' dictis.

MR. HOWARD SAUNDERS made some observations on an interesting stage of plumage of *Larus melanocephalus*, an immature specimen of which had been procured in Hungary, and had been submitted to him for identification by the Hungarian National Museum.

MR. J. G. MILLAIS exhibited specimens of the Grey-necked Bustard (*Trachelotis barrovii*), obtained by him during his recent travels in South-eastern Africa, and drew special

attention to the rosy tinge which the white under-surface of the bird frequently exhibited.

Extracts of letters received from Mr. W. EAGLE CLARKE were read by Mr. H. SAUNDERS. Mr. Clarke had systematically worked the Camargue—the wild marshy district about the mouths of the Rhone—and had found some 115 species of birds there. He had observed flocks of 500–600 Flamingoes on the *étang* of Valcarès, which covers an area of about 30 square miles, though not more than 2 feet deep, and had watched their way of feeding on a small crustacean (*Artemia salina*) $\frac{1}{4}$ inch in length and existing in myriads. The Flamingoes were not nesting, and perhaps would not do so this year, as the season had been exceptionally dry. The Red-crested Pochard (*Fuligula rufina*) was a tolerably common breeding species, nesting under dense masses of purslane, and in the same cover two pairs of Pintail (*Dafila acuta*) were undoubtedly breeding: a very considerable extension southward of the known breeding-range of this Duck.

Mr. E. HARTERT made some remarks on the ornithological treasures in the Museum of Kiel, which he had recently visited. Besides the Boie and Behn collections, there were several other birds of great interest to be seen there, including a *Nestor productus* and a fine *Alca impennis*.

The EDITOR announced that the titlepage and index to Vol. III. of the 'Bulletin' would be distributed shortly, along with Mr. Degen's paper on "Some of the Main Features in the Evolution of the Bird's Wing," which would appear as Vol. II. of the 'Bulletin' of the British Ornithologists' Club.

Postscript.

[The following descriptions of new species of Philippine birds have been sent to me by Mr. Ogilvie Grant, who has received a collection from the mountains of Northern

Luzon from his friend Mr. John Whitehead, which unfortunately arrived too late for exhibition at the last Meeting of the Club. A full account of the collection will appear in 'The Ibis.'—R. B. S., *June 23, 1894.*]

Mr. Ogilvie Grant describes the following species as new :—

CHIMARRHORNIS BICOLOR, sp. n.

Cyanescenti-schistaceus; abdomine, uropygio, supracaudalibus et caudâ saturatè castaneis. Long. tot. 6·3 poll., alæ 3.

ORIOLOUS ALBILORIS, sp. n.

Similis, ut videtur, *O. samarensi*, Steere, sed loris conspicuè albis, corpore subtùs toto lætè flavo, hypochondriis vix nigricante striolatis distinguendus. Long. tot. 7·7 poll., alæ 4·3.

LANIUS VALIDIROSTRIS, sp. n.

L. tephronoto, Vig., valdè affinis, sed notæo toto schistaceo, uropygio et supracaudalibus minimè rufis, et rostro validiore distinguendus. Long. tot. 8·2 poll., alæ 3·4.

HYLOTERPE ALBIVENTRIS, sp. n.

Similis *H. philippinensi*, Wald., sed obscurior; pectore grisescente et abdomine albo distinguenda. Long. tot. 6 poll., alæ 3·3.

DENDROPHILA MESOLEUCA, sp. n.

Similis *D. ænochlamydi*, Sharpe, sed plagâ longitudinali dorsali albescente facilè distinguenda. Long. tot. 4·7 poll., alæ 3.

ÆTHOPYGA FLAVIPECTUS, sp. n.

Similis *Æ. bellæ*, Tweed., sed subtùs lætè flavo, pectore minimè scarlatino notato distinguenda. Long. tot. 3·7 poll., alæ 1·7.

EUDREPANIS JEFFERYI, sp. n.

Similis *E. pulcherrimæ*, Sharpe, sed secundariis extùs latè metallicè viridibus et tectricibus concoloribus distinguenda. Long. tot. 3·6 poll., alæ 1·9.

CINNYRIS OBSCURIOR, sp. n.

Similis *C. jugulari* (L.), sed minor, suprâ grisescente tincta, vix olivascens, et rostro brevior et crassior distinguenda. Long. tot. 4 poll., alæ 2.

CINNYRIS WHITEHEADI, sp. n.

Similis *C. speratæ* (L.), sed pileo nuchâque metallicè aureo-viridibus, dorso alisque nigerrimis, et uropygio et supra-caudalibus metallicè viridibus distinguenda. Long. tot. 4 poll., alæ 2.1.

DICÆUM LUZONIENSE, sp. n.

Simile *D. ignipectori*, Hodgs., sed gutture et pectore scarlatinis. Long. tot. 3.5 poll., alæ 2.1.

DICÆUM OBSCURUM, sp. n.

Simile *D. concolori*, Jerd., sed major, et rostro fortiore, notæo saturatè olivaceo, corpore subtùs magis cinerascens, et loris minimè albis. Long. tot. 3.6 poll., alæ 2.2.

ZOSTERORNIS, gen. n. (Fam. *Timeliidæ*.)

Genus affine generi "*Cyanoderma*" dicto, sed orbitis minimè nudis, annulo vero albo, more *Zosteropum*, cinctis, distinguendum. Typus est

ZOSTERORNIS WHITEHEADI, sp. n.

Suprà olivacea; pileo cinereo; supercilio, faciei lateribus, et gulâ summâ cinnamomeo-rufis; subtùs omninò flava. Long. tot. 5.5 poll., alæ 2.8.

STOPAROLA NIGRIMENTALIS, sp. n.

Similis *S. sordidæ*, Wald., sed colore magis argentescenti-schistaceo; fronte et loris, supercilio, mento, et gulâ summâ nigris distinguenda. Long. tot. 6.2 poll., alæ 3.1.

CHLORURA BRUNNEIVENTRIS, sp. n.

C. similis *C. borneensi*, Sharpe, sed abdomine rufescente, pectore concolore, pectoris lateribus cæruleo lavatis, fronte cæruleâ lætior et minùs extensâ. Long. tot. 4.2 poll., alæ 2.3.

LOXIA LUZONIENSIS, sp. n.

♂. Similis *L. curvirostræ* ♂, sed magis rosacea. ♀. Similis *L. curvirostræ* ♀, sed magis griseus, pectore et uropygio vix flavicante tinctis. Long. tot. 5.6 poll., alæ 3.3.

SCOPS LONGICORNIS, sp. n.

Similis *S. pennato*, sed tarsi imis nudis et cornibus plumosis longissimis (1.5 poll.) distinguenda. Long. tot. 8 poll., alæ 5.6.

Mr. Henry Seebohm describes a new Blackbird as

MERULA THOMASSONI, sp. n.

M. similis M. papuensi, sed multo minor (long. alæ 4.75 poll., caudæ 3.75) et saturatior, dorso, alis, caudæque nigris, minimè brunneis; pileo undique, gutture et præpectore totis nigro-fumosis.

LIII.—Notices of recent Ornithological Publications.

[Continued from p. 447.]

70. *Adair on the Short-eared Owl and Kestrel in the Vole-plague Districts of Scotland.*

[The Short-eared Owl (*Asio accipitrinus*, Pallas) and the Kestrel (*Falco tinnunculus*, Linn.) in the Vole Plague Districts. By Peter Adair. Ann. Scottish Nat. Hist. i. p. 219, 1892.]

That "there is no wrong without a remedy" is a maxim in Nature as well as in Law. The abnormal increase of Voles in the Border-counties of Scotland has been followed by an equally abnormal development of the numbers of the Short-eared Owl and Kestrel—its two principal enemies in our avifauna. Upwards of 300 nests of this Owl (usually a mere bird of passage) were recorded in the "Vole-infested area" in 1892, and the Kestrel was "constantly in sight, sometimes several at once."

71. *Andersen on the Occurrence of Ligurinus sinicus in Denmark.*

[*Ligurinus sinicus* i Denmark. Af Knud Andersen. Vidensk. Meddel. fra den naturh. Foren. i. Kbhvn. 1893, p. 166.]

This paper (of which a German translation has been given in a recent number of the 'Ornithologische Mittheilungen,' 1894, p. 74) records the addition of a new Eastern species to the European list. In November 1892 an example of the Chinese Green-finch (*Ligurinus sinicus*) was captured alive

near Copenhagen. It has been examined by Mr. Seebohm, who confirms the identification. The previously ascertained range of this species extends over Northern China, Japan, and Amoorland up to 90° E. long.

72. '*Aquila*': a new Hungarian Journal of Ornithology.

[*Aquila*. A Magyar Madartani Központ Folyóirata. No. I. Budapest, July 1894.]

We have received the first number of '*Aquila*,' a "Journal of Ornithology, the organ of the Hungarian Central Bureau for Ornithological Observations," and are glad to welcome our new contemporary. '*Aquila*' is printed in parallel columns of Magyar and German. After an introduction, by Mr. Otto Herman, Chief of the Hungarian Central Committee, in which the origin and aims of the new journal are explained—its special object being the investigation of the phenomena of Migration—and an explanation, by Mr. Gaston v. Gaal, of the organization of the Central Committee, of which the officials are Messrs. Herman (Chief), Jablonowski (Assistant), and Gaston Gaal de Gyula (Hon. Assistant), follows a series of memoirs by Messrs. Jablonowski, Herman, Gaetke, Madarász, and other authors, mainly relating to Hungarian birds, which ornithologists who are interested in the European *Ornis* should not fail to study. We beg our Hungarian friends to excuse this short notice of their interesting work, and to accept our best wishes for its success.

73. *Bower on the Birds of Tibet*.

[Diary of a Journey across Tibet. By Capt. Hamilton Bower. London, 1894.]

The narrative of Capt. Bower's adventurous journey across Tibet from Ladakh to Ta-t sien-loo contains several references to birds (see pp. 27, 47, 156, 178, 235, 244). In one of the final chapters will be found a series of notes on the Game-Birds of the "Chang," with contributions to their histories by Mr. Seebohm. *Syrnhaptes tibetanus* is widely distributed in Tibet: four fine Pheasants—*Crossoptilon tibetanicum*, *C. leucurum*, *Phasianus elegans*, and *Ithaginis geoffroyi*—were

met with, as also *Tetraophasis szechenyi*, *Tetraogallus himalayensis*, and *Tetrastes severtzovi*.

74. *Butler on the Distribution of Crossbills in North America.*

[The Range of Crossbills in the Ohio Valley, with Notes on their unusual occurrence in Summer. By A. W. Butler. Amer. Nat. 1894, p. 136.]

Mr. Butler gives numerous instances of the occurrence of "*Loxia curvirostra minor*" in the Ohio Valley, and in other localities south of what was supposed to be the limit of its range. This erratic bird appears to have bred on several occasions in Ohio and Indiana. *L. leucoptera* also occurs in the Ohio Valley, but not so often.

75. *Collett on Bird-life in Arctic Norway.*

[Bird Life in Arctic Norway, a Popular Brochure. By Robert Collett, F.M.Z.S. Translated by Alfred Heneage Cocks, M.A., F.Z.S. 8vo. London, 1894.]

We are thankful to Mr. Cocks for his translation of Prof. Collett's memoir, which cannot fail to be of great interest to all those who study the Palearctic Ornis or any part of it. The paper was originally written in German for the Second International Congress, held at Budapest in May 1891. The English translation has been made from a revised and somewhat condensed edition subsequently published in Norwegian.

Prof. Collett, in his introductory remarks, divides Arctic Norway into three principal regions :—(1) the Coast-district and adjacent islands up to the North Cape ; (2) the deep fjords of the Arctic Ocean and adjacent river-basins ; and (3) the interior plateau of Finmark, or Lapland. On each of these subjects he gives us a chapter full of information. Sværholt-klubben, inhabited almost exclusively by Kittiwakes (*Rissa tridactyla*), is probably the largest "bird-rock" in the world. On another bird-rock near Vardö was shot in 1848 what is believed to have been the last living specimen of *Alca impennis*. In the birch-woods of Finmark the voice of

the Siberian Willow-Wren (*Phylloscopus borealis*) is heard during the breeding-season at all hours of the day and night. A succinct account of what is known of this interesting intruder from the East is given, as are also particulars about all the other feathered inhabitants of the "Land of the Midnight Sun."

To Prof. Collett's excellent narrative the editor has added an appendix containing a systematic list of the Birds of Norway, arranged according to the rules and nomenclature of the B.O.U. The total number of species as yet recognized in Norway appears to be 278, of which 212 breed in the kingdom, and of these 190 are "regular breeders," 7 are "rare," and 15 "uncertain." The number of "non-breeding visitors" is 66.

We regret to observe that Mr. Cocks uses that horrible Americanism, "scientist," in his translation (p. 11). There is the less excuse for this inelegancy, as "scient" (=savant) is a perfectly correct and identical term. The contributors to the Tromsø Museum's Annual may be called "scients" or "savants," but, please Mr. Cocks, not "scientists."

76. Dobie on the Birds of Cheshire, Denbighshire, and Flintshire.

[Birds of West Cheshire, Denbighshire, and Flintshire: being a List of Species occurring in the District of the Chester Society of Natural Science. By W. Henry Dobie, M.B., M.R.C.S. Proc. Chester Soc. Nat. Sci. and Lit., no. iv. 1894, p. 282.]

The portion of Cheshire which lies west of a line drawn south from Warrington, together with the counties of Flint and Denbigh (as well shown in the map attached to the present memoir), constitutes the district adopted by the Chester Society of Natural Science for their sphere of operations. Of the birds of this district Mr. Dobie, with the co-operation of his friends, has compiled the list now before us.

Mr. Dobie adopts the nomenclature and arrangement of Saunders's 'Manual,' and gives notes on the times and places of the occurrences of the 239 species met with within the

district in systematic order. Of these, however, 16 are considered to have rather doubtful claims to be included in the list. It is evident that such an extensive and varied tract of country might well be expected to produce a richer avifauna, and in an accompanying circular the author requests the assistance of his brother naturalists in extending and supplementing the present work.

77. *Elliot on the Life and Services of Audubon.*

[The Life and Services of John James Audubon. An Address delivered before the New York Academy of Sciences, April 26, 1893. By Daniel G. Elliot, F.R.S.E. Reprinted from the Transactions of the Academy, vol. xiii. p. 43.]

On the 26th of April last year, our friend Mr. D. G. Elliot delivered before the New York Academy of Sciences a well-deserved eulogy upon Audubon. Audubon, born in 1780, although ordinarily supposed to be an American, was a Frenchman by birth, and published his great work in Scotland. He was an artist, and, as Mr. Elliot puts it, "a woodsman, not a scientific naturalist, according to the ideas prevalent to-day"—but a man of indomitable resolution and perseverance, and an ornithologist of whom our American friends may well be proud.

78. *Finsch on a rare Rail.*

[Einiges über Südsee-Rallen. Von Dr. O. Finsch. Ornith. Monatsb. Deutsch. Ver. z. Schutze Vogelw. xviii. p. 457, 1893.]

After giving us some of his experiences among the birds of the Pacific Islands, Dr. Finsch describes and figures from the unique specimen in the St. Petersburg Museum *Aphanolimnas monasa* (Kittl.) of the island Kushai or Ualan of the Caroline group. This specimen was obtained by Kittlitz in 1827, and the species is now probably extinct, as Dr. Finsch, who searched for it in February 1880, was unable to find the bird or to get any intelligence as to its existence.

79. *Flower on the Arrangement of Museums.*

[Address of Sir William H. Flower, K.C.B., D.C.L., F.R.S., &c., President of the Museums Association, on Modern Museums. 8vo. London, 1893.]

No one interested in Zoological Museums, whether as a Curator or a Student, should fail to study the excellent address delivered by the President of the Museums Association to the members assembled at their general meeting in London last year, and lately issued in the "Report" of their Proceedings. Sir William Flower gives us a critical account of some of the most important of the existing Museums, and, what is still more valuable, a definite scheme and plan of his own, showing how a modern Museum should be constructed. One of his pieces of advice to Curators is so important and so tersely put that we must beg leave to extract it:—

"The number of the specimens must be strictly limited, according to the nature of the subject to be illustrated and the space available. None must be placed either too high or too low for ready examination. There must be no crowding of specimens one behind the other, every one being perfectly and distinctly seen, and with a clear space around it. If an object is worth putting into a gallery at all, it is worth such a position as will enable it to be seen. Every specimen exhibited should be good of its kind, and all available skill and care should be spent upon its preservation, and in rendering it capable of teaching the lesson it is intended to convey. Every specimen should have its definite purpose, and no absolute duplicate should on any account be admitted. Above all, the purpose for which each specimen is exhibited, and the main lesson to be derived from it, must be distinctly indicated by the labels affixed, both as headings of the various divisions of the series and to the individual specimens."

80. *Hartert on the Mode of Flight of the Accipitres.*

[Wie hält der fliegende Raubvogel seine Beine? Von Ernst Hartert. Ornith. Monatsb. No. I., January 1894.]

Mr. Hartert controverts the ordinary and certainly widely accepted notion that Birds of Prey, when in flight, carry their legs drawn up against the breast. He observed first that the Kites so common in the harbour of Calcutta, *Milvus govinda* and *Haliastur indus*, always carried their legs stretched

out behind them (see J. f. O. 1889, pp. 195, 341). Recently he has witnessed the same feat performed by the Black Kite on the Rhine, by the New-World Vultures in Venezuela, and by *Polyborus cheriway* in Curaçao. Herr Ziemer has noticed the same habit among the Raptors in Pomerania. Mr. Hartert is now convinced that all Birds of Prey carry their legs behind, except when they have hold of their prey. "Is this correct?" we ask the observant members of the B.O.C.

81. *Hudson on Lost British Birds.*

[Society for the Protection of Birds.—No. 14. Lost British Birds. By W. H. Hudson. With 15 drawings by A. D. McCormick. 8vo. London. 1894.]

"Lost British Birds," according to Mr. Hudson, are "those which were once summer residents and breeders or inhabitants all the year round of some part of Great Britain, but which no longer breed in this country, and visit our shores only as rare stragglers." Mr. Hudson wishes to show us clearly what we have lost, and to urge upon us the necessity of taking the greatest care that we lose no more. The saddest feature in the case, he says, is that "invariably the finest species are the first doomed." Thirteen examples of our lost birds are selected, and the melancholy details of their former abundance and present scarcity are concisely set forth. Each species is illustrated by a nicely drawn etching. Of these the Capercaillie has been fortunately reintroduced, so it should hardly have been placed in the category of "lost birds," and we have some doubts as to the correctness of including the "Red Night-Reeler" (*Locustella luscinioides*). Is it certain that this species was ever abundant? Mr. Hudson admits that "at the best of times it was rather a rare bird," and dates its extinction from 1849, when a "lively scramble" for the bird and its eggs took place.

82. *Jouy on Birds from Central Mexico.*

[Notes on Birds of Central Mexico, with Descriptions of Forms believed to be new. By P. L. Jouy. Proc. U.S. Nat. Mus. xvi. p. 771.]

Mr. Jouy, a well-known American naturalist and collector

in the employ of the Smithsonian Institution, whose untimely decease will be found noticed in our Obituary, passed twelve months in Central Mexico in 1891 and 1892, and prepared the present notes on the birds met with—his last contribution to science. Mr. Jouy went by Tampico to San Luis Potosi, and, after making many excursions from that city, passed seven months at or near Guadalajara. He also visited Guaymas, on the Gulf of California, and the mountains of Sonora. In these localities, mostly belonging to the temperate tableland region, examples of 112 species were obtained, concerning which interesting notes are given. The following subspecies are described as new :—*Catharus melpomene clarus* and *Psaltiriparus melanotis iulus*, both from Jalisco; and *Spinus psaltria croceus*, from Western Central America and Panama. *Basileuterus rufifrons jouyi* had already been described by Mr. Ridgway (see Ibis, 1893, p. 148). Other species of interest met with were *Aphelocoma cyanotis*, Ridgw., in the live oaks in the mountains west of San Luis Potosi, *Chlorostilbon auriceps* at the base of the Volcano of Colima, and *Chrysotis finschi*, “the most abundant species of the family in Southern Jalisco.”

83. *Lataste on Chilean Birds.*

[Minuscule Contribution à l'Ornithologie Chilienne. Par F. Lataste. Proc.-verb. Soc. Scientif. du Chili, 1893, p. cxiii.]

Liste d'Oiseaux recueillis par M. le docteur Federico Delfin dans le détroit de Magellan et environs, et offerts par lui au Musée Zoologique de l'Ecole de Médecine de Santiago. Par F. Lataste. Proc.-verb. Soc. Scientif. du Chili, 1893, p. cxxi.]

We are pleased to see that M. Lataste has commenced to pay some attention to the birds of Chili. The two short communications to the ‘Procès-verbaux’ of the ‘Société Scientifique du Chili’ now before us relate to some small collections of the commoner species. But if, as we are told, M. Lataste has only the Aves of Gay’s ‘Fauna’ for assistance in the determination of the species, we fear that he will be led into many errors by that very inaccurate compilation.

84. *Leverkühn on the Breeding of the Crotophagidæ.*

[Ueber das Brutgeschäft der Crotophagiden. Von Paul Leverkühn. J. f. O. 1894, p. 44.]

Dr. Leverkühn gives a German translation of Reinhardt's essay on the breeding-habits of the Anis (published in Danish in 1860), which will be useful to those ornithologists who do not read Danish. Dr. Leverkühn adds some supplementary remarks, from which we learn that a pair of the closely allied form *Guira piririgua* made a nest in the Zoological Garden of Copenhagen in 1893. Three or four of the very curious eggs of this species were laid, and one young bird was hatched and lived fourteen days.

85. *Meyer and Wigglesworth on new Birds from Celebes and its neighbourhood.*

[Beschreibung einiger neuen Vögel der Celébes-Region. Von A. B. Meyer und L. W. Wigglesworth. J. f. O. 1894, p. 113.]

Tanygnathus muelleri sangirensis is a new subspecies from Sanghir; *Zosterops sarasinorum*, sp. nov., and *Nycticorax minahassæ*, sp. nov., are from Celebes. The occurrence of *Puffinus chlororhynchus* on the coast of Celebes is chronicled.

86. *Oustalet on a new Cassowary.*

[Description d'une nouvelle Espèce de Casoar de l'Ile Jobi. Par M. E. Oustalet. C. R. Soc. Philom. Paris, no. 9, Février 1893.]

M. Oustalet describes *Casuarius laglaizei* based on a specimen obtained by M. Laglaize on the island of Jobi in the Bay of Geelvink. It is curious that this species, as well as *C. occipitalis*, Salvad., should occur in the same little island, and we may be allowed to question its distinctness.

87. *Oustalet on new Birds from Congoland.*

[Notice sur quelques Espèces nouvelles d'Oiseaux recueillies par M. J. Dybowski dans le cours de son expédition à travers la région de l'Oubangui. Par E. Oustalet. Le Naturaliste, 1892, pp. 218, 231.]

From specimens in the collection made by M. J. Dybowski on the Ubangui and in the adjacent districts of Central

Africa, M. Oustalet describes as new *Dybowskia* (gen. nov. ex fam. Cisticolinâ) *kemoensis*, *Xenocichla xavieri*, *Andropadus alexandri*, *Mirafra tigrina*, *Lagonosticta dybowskii*, and *Francolinus dybowskii*.

88. *Oustalet on Birds from the Algerian Sahara.*

[Notice sur la Collection d'Oiseaux recueillie par M. Dybowski dans le Sahara. Par E. Oustalet. Bull. Soc. Zool. France, xvi. p. 59, 1891.]

This memoir, which has hitherto escaped our notice, but of which the author has recently sent us a copy, gives an account of a collection made by M. Dybowski at Erg, in the Algerian Sahara. It contained examples of 33 species, besides which 9 others were observed in life. There are no species additional to the Algerian list, but a dissertation on the Bird-life of the Sahara follows, which is well worthy of perusal.

89. *Oustalet on the Birds of Turkestan, Tibet, and Western China.*

[Catalogue des Oiseaux provenant du voyage de M. Bonvalot et du Prince Henri d'Orléans à travers le Turkestan, le Tibet et la Chine Occidentale, par M. E. Oustalet. Nouv. Arch. d. Mus. sér. 3, t. v. Extr.]

The arduous and successful journey across the wilds of Tibet made by M. Bonvalot and Prince Henry of Orleans in 1889 and 1890 is well known to every one. But it is not generally understood that these energetic explorers, in spite of the dangers and difficulties of their novel route, made and carried home collections of natural history of the highest interest to science. The series of birds collected by these travellers has been carefully studied by M. Oustalet and forms the subject of the present memoir.

The route taken by the expedition was from Kuldja, which was left in September 1889, over the Thian-Shan mountains and down the Tarim river to Lob-nor. Hence in midwinter the passage of the Altyn Tagh was effected and a descent made in February 1880 on the Tengri-nor. After a bold attempt to move south to Lhasa, the party then turned eastward to Tsiamdo, on the upper streams of the Mekong, and passing Batang arrived at the French Missionary Station of

Ta-tsien-loo, well known to us from the researches of Père David, in the following June. Here they became the guests of Bishop Biet, and hence they despatched their collections to Europe.

The bird-skins obtained, which consisted of several hundred specimens, are referred by M. Oustalet to 216 species. Most of the novelties have already been named in an article published in 1892*, but we observe at least one species (*Chryso-mitris bieti* from Ta-tsien-loo) now first characterized as distinct from *C. tibetana*.

A good series of rare Game Birds appears to have been procured, amongst which are a new *Tetraogallus* (*T. henrici*) from Ta-tsien loo, several skins of *Lophophorus lhuysi* from the same district, and 14 specimens of a *Crossoptilon* also from Ta-tsien-loo, upon which M. Oustalet gives us an excellent disquisition. He is of opinion that the so-called *C. drouyni* and *C. leucurum* are not really separable from *C. tibetanum*.

Appended to this instructive memoir are three good coloured plates drawn by Keulemans, which represent *Trochalopteron ellioti bonvaloti*, *T. henrici*, *Pomatorhinus macclellandi dedekensi*, *Propyrrhula subhimalayensis*, and *Tetraogallus henrici*.

90. Parrot on the Size of the Heart in Birds.

[Ueber die Grössenverhältnisse des Herzens bei Vögeln. Von Dr. med. Carl Parrot in München. Zoologisches Jahrb. vii. p. 496.]

The author has examined the hearts of a large number of species belonging to all the principal families from the point of view of their relative weight. The differences between various birds are enormous, and range between 4.09 (body-weight 1000) for the "Haselhuhn" and 25.64 for the Thrush. The mammalian heart is heavier in proportion than that of some birds, but it never reaches the astonishing weight shown by the Thrush and a good many Limicolæ. As regards the reasons for the development of a large and heavy heart, it is

* "Contributions à la Faune de la Chine et du Tibet." Par E. Oustalet. Ann. Sc. Nat. Zool. 7^e sér. xii. p. 277.

perhaps a significant fact that among the Mammalia the Bat possesses the most weighty heart—12·7 : 1000 body-weight. But, curiously enough, the most powerful Hawks have for the most part a light heart.

91. *Pycraft on the Wing of Archæopteryx.*

[Wing of *Archæopteryx*. By W. P. Pycraft. Journ. Oxford Univ. Jun. Scient. Club, 1894, p. 172.]

Mr. Pycraft appears to have given a very instructive address on the wing of *Archæopteryx* and the vexata quæstio of its correct interpretation to the meeting of the Oxford University Junior Scientific Club in January last. Dr. Hurst's novel views as to this ancient bird having possessed two extra digits (*cf.* above, p. 142) are adversely commented upon.

92. *Ridgway on Birds from Alaska.*

[Catalogue of a Collection of Birds made in Alaska by Mr. C. H. Townsend during the Cruise of the U.S. Fish Commission Steamer 'Albatross,' in the Summer and Autumn of 1888. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 663.]

Mr. Ridgway catalogues the birds collected in Alaska during the cruise of the 'Albatross' in 1888. They are referred to 35 species.

93. *Ridgway on a new Geothlypis.*

[Description of a new *Geothlypis* from Brownsville, Texas. By Robert Ridgway. Proc. U.S. Nat. Mus. xvi. p. 691.]

Mr. Ridgway bases a new subspecies—*Geothlypis poliocephala ralphii*—upon specimens collected by Dr. W. L. Ralph at Brownsville, Texas, in April and May 1893.

94. *Salvadori on new Birds from New Guinea.*

[Caratteri di cinque Specie Nuove di Uccelli della Nuova Guinea Orientale-Meridionale raccolti da L. Loria. Per Tommaso Salvadori. Ann. Mus. Stor. Nat. Genova, ser. 2, xiv. p. 150.]

In a collection of 700 skins from S.E. New Guinea, sent to the Museo Civico of Genoa by Dr. L. Loria, Count Salva-

dori finds examples of five new species, which he describes as *Melanocharis striativentris*, *Ptilotis plumbea*, *Sericornis nigrorufa*, *Loria loriæ*, and *Synæcus plumbeus*. *Loria* is a new genus of Paradise-birds of somewhat uncertain position, being based on a female specimen.

95. *Salvadori on Birds from Somali-land.*

[Uccelli del Somali raccolti da D. Eugenio dei Principi Ruspoli descritti da Tommaso Salvadori. Mem. R. Acc. Sci. Torino, ser. 2, xlv. p. 547.]

During his first journey in Somali-land, in 1891, Prince Eugenio Ruspoli (who has recently lost his life in a second adventure in the same country) made a collection of 183 birds, which are referred by Count Salvadori to 77 species. Of these *Trachyphonus uropygialis*, *Lagonosticta somaliensis*, *Dienemellia ruspolii*, and *Lamprotornis viridipectus* are characterized as new. Count Ruspoli's exact route has been described in the 'Bollettino' of the Italian Geographical Society for 1891 and 1893. A concise account of our previous authorities on the Somalian avifauna is given in the introduction to this memoir.

96. *Seebohm on the Distribution of British Birds.*

[Address to the Yorkshire Naturalists' Union, Skipton, 1893. By Henry Seebohm, President. 8vo. London, 1893.]

Mr. Seebohm took the Geographical Distribution of British Birds as the subject of his Presidential Address to the members of the Yorkshire Naturalists' Union at their meeting at Skipton last year. In its printed form this has become an interesting and readable essay. Mr. Seebohm divides the 400 "British Birds" which he acknowledges into about "100 accidental visitors, 50 irregular visitors, and 250 either residents or regular annual visitors." He then proceeds to discuss these three categories separately, and to subdivide them into smaller groups, showing us in each case whence the various species are derived and what is known of their ranges. It is remarkable, he observes, that of 38 species which have occurred two or three times in our islands, "Arctic America should have produced the largest con-

tingent" (9). "Subtropic," it may be remarked—a term repeatedly used by Mr. Seebohm—would be better written, we think, "subtropical." "Eurasian" is also a detestable compound, especially when we have the more convenient and correctly-formed term "Palearctic" available. We quite agree with Mr. Seebohm that trinomials are in some cases correctly used, *i. e.* when two geographical forms are connected by a series of intermediate phases. But in such cases it is, in our opinion, better to add to the earliest-named form, as a third term, the subspecific name *typicus*, so as to put it exactly on a par with parallel subspecies. Thus the Common Crossbill should be designated "*Loxia curvirostra typica*," as distinguished from the Parrot Crossbill, "*L. c. pityopsittacus*," whilst "*Loxia curvirostra*" would include both forms.

97. *Sharpe's Handbook to the Birds of Great Britain.*

[Allen's Naturalist's Library. Edited by R. Bowdler Sharpe, LL.D., F.L.S., &c.—A Handbook to the Birds of Great Britain. By R. Bowdler Sharpe, LL.D., Zoological Department, British Museum. Vol. I. London: W. H. Allen & Co. 1894.]

It was necessary, we suppose, that the new "Naturalist's Library" should comprise a book on British Birds. Mr. Howard Saunders having very prudently declined to prepare a rival to his own excellent 'Manual,' it fell to the lot of the editor of the new undertaking to meet the deficiency. This serious task he has commenced in the present volume, and, so far as it is possible to surmount the proverbial difficulty of putting new wine into old bottles, we may well compliment him on the result. We cannot truly say that we appreciate the old steel plates, products of a bygone age, now revived. Some of the figures (see the Nightingale, plate xxiii.) are barely recognizable. In this we are sure we shall have the full sympathy of the author, who must sigh after Keulemans every time that he looks at the volume. The letterpress, however, the real test of the work, is well put together, and, so far as we may presume to judge, correct. But what else could be expected from one of our leading

authorities on British birds? Our complaint is that it is much too good for the antiquated illustrations.

After a well-written preface, which contains a highly appreciative sketch of the leading authorities on this familiar subject, Dr. Sharpe gives us his reasons for preferring the "handbook" form in the present work. This form he follows throughout. Under the head of each species are given paragraphs describing the various plumages of the male, female, and young, the range of the bird in Great Britain, its area outside the British Islands, and the habits, nest, and eggs in successive order.

All this part of the volume is satisfactory. But there is one point upon which, as Dr. Sharpe well knows, we are entirely opposed to his views and practice; this is his nomenclature. When, in 1883, the Committee of the B. O. U. on Nomenclature, of which Dr. Sharpe was himself a member, printed and published the 'List of British Birds,' we had fondly hoped that this thorny question was finally settled for ourselves, and that at least the members of the Committee would agree to abide generally by the rules which they had themselves settled. Of course it is obvious that there might be minor alterations required (such, for example, as the substitution of *Plectrophenax* for *Plectrophanes*), to which no one would raise the slightest objection. But Dr. Sharpe has introduced such wholesale changes into his list that we scarcely know our familiar friends under their unfamiliar names. This is mainly owing first to his adoption of what is called the "*Scomber-scomber* principle," whereby some 30 British birds are saddled with the same generic and specific names—a principle deliberately rejected by the Stricklandian Code and by the B. O. U. Committee. But a second and not less important cause of disturbance is the introduction of a quantity of new and, as we believe, wholly unnecessary generic names. Thus, instead of using *Corvus* for the Crows, which together constitute a well-marked group, we are invited to call them by four different generic terms—*Trypanocorax*, *Corvus*, *Colæus*, and *Corone*. No one could really say that these divisions are equal in rank to *Nucifraga*, *Pica*, *Pyrrhocorax*,

and *Garrulus*—the four eminently natural genera which make up the remaining British Corvidæ.

The inconvenient discoveries of Mr. Stejneger (for whose talents and learning we have, however, a sincere admiration) seem to have a great attraction for Dr. Sharpe. How unsafe a guide Mr. Stejneger is we have ourselves shown in the case of "*Acanthis*" (as Dr. Sharpe, see p. 42, now admits). Prof. Collett has proved the same fact as regards the fabulous *Parus colletti* (see *Ibis*, 1893, p. 474). Yet Dr. Sharpe maintains "*Parus dresseri*, Stejneger," as distinct from *P. palustris*, and follows him in using *Ægithalus* for the Long-tailed Tits*. "*Chloris*" has been in use since 1788 as the name of a well-known genus of grasses, and was in consequence rejected by the B. O. U. Committee, as a name for the Greenfinches, in favour of *Ligurinus*. Yet Dr. Sharpe has revived it, although he allows (see p. 42) that the same generic names should not be employed in zoology and botany.

Under these circumstances it is not surprising to find that, out of 130 names of British birds used in the present volume, 38 are different from those employed in the B. O. U. List and in Saunders's 'Manual.' In a work confessedly intended for popular use it would be wiser, in our opinion, to adhere to the ordinary nomenclature and to avoid an unnecessary multiplicity of genera.

98. Stone on the Genus *Anous*.

[A Revision of the Genus *Anous*. By Witmer Stone. Proc. Ac. Nat. Sci. Philad. 1894, p. 115.]

"With the object of straightening out the synonymy of the group," says Mr. Stone, "I have made a careful study of the literature bearing upon the subject." Mr. Stone proceeds to express his surprise that Mr. Saunders, in his paper on the

* Hermann's posthumously-published description of his *Pipra? europæa* is, in our opinion, much too indefinite to necessitate its identification with *Acredula caudata*, and may be consigned to the oblivion in which it has until lately remained. Moreover, the generic term "*Ægithalus*" was only proposed by Hermann tentatively for this supposed European *Pipra*.

Sterninæ in P. Z. S. 1876 (eighteen years ago), united under one heading the two species of Grey Noddy, *Anous* (or *Procelsterna*) *cæruleus* and *A. cinereus*. It is remarkable that Mr. Stone's "careful study" should have allowed him to pass unnoticed the fact that Mr. Saunders corrected this error in P. Z. S. 1878 (pp. 211, 212), where he gave a full synonymy of both species, and that in the same volume (pp. 272, 273) Dr. R. B. Sharpe did the same, independently, as has been duly noted in 'Zool. Record' for 1878, *Aves*, p. 59. According to Mr. Stone's views, *Anous melanogenys*, Gray, is identical with *A. leucocapillus*, Gould, but the species to which Mr. Saunders applied the latter name is distinct. It is accordingly renamed *A. atrofuscus*.

The specimens of *A. leucocapillus* from Nihan which Mr. Stone catalogues are probably referable to *A. hawaiiensis*, Rothschild. We may add that the explorer of the Congo was *Tuckey*, not "*Truckey*," and that the Abrolhos were named after *Houtman*, not "*Hartman*."

99. *Tschusi zu Schmidhoffen's List of his Memoirs.*

[Meine bisherige literarische Thätigkeit. 1865–1893. Seinen ornithologischen Freunden gewidmet. Von Victor, Ritter von Tschusi zu Schmidhoffen. 8vo. Hallein, 1894.]

The veteran Austrian field-naturalist Victor, Ritter v. Tschusi zu Schmidhoffen, prints a list of his ornithological memoirs from 1865 in 1893, which will be useful to students of the European Ornis. They are 258 in number, besides 11 "*varia*."

100. *Wickmann on the Colour of Birds'-eggs.*

[Die Entstehung der Färbung der Vogeleier. Von Dr. H. Wickmann. Münster i. W. 64 pp.]

In this interesting memoir the author traces the pigments deposited in the shells of birds'-eggs to the ovary itself, where they are derived from the blood. Presumably the different colours have some relation to differences in the constitution of the blood; but the author admits that there are no exact researches upon this subject, though he points out—using

the argument from analogy—that the form of the hæmoglobin crystals in mammals differs considerably. Dr. Wickmann also asserts that there are no eggs free from pigment. White eggs contain a white pigment. This fact is of great interest, as white pigment is exceedingly rare in the animal kingdom, a white colour being nearly always due to optical causes.

LIV.—*Letters, Extracts, Notices, &c.*

WE have received the following letters, addressed to the Editor, since our last issue:—

SIR,—In Sharpe's edition of Layard's 'Birds of South Africa' (p. 581), the question is raised as to whether wild specimens of *Numida coronata* are found with white quill-feathers; and Mrs. Barber, whose knowledge of the species is very considerable, is reported to have replied in the negative, so far as her experience was concerned.

At this season of the year (winter), in Pretoria, quantities of wild Guinea-fowls are shot in the country districts and forwarded to Johannesburg and Pretoria for sale. I have thus procured examples of several good species; and among a number of Knorhaan, Teal, and Guinea-fowl shot in the Orange Free State and consigned to a poulterer here, I secured a fine specimen of this variety, proving incontestably that it does occur in a wild condition.

In this specimen all the quill-feathers are white; it also differs from the ordinary bird in its paler ground-colour—pale, not dark grey—but has no trace of the white breast, which the tame breed possesses. I could not determine the sex, as it is necessary to forward these birds in an eviscerated condition.

I am, Sir,

Yours &c.,

Pretoria, Transvaal,
June 1894.

W. L. DISTANT.

SIR,—In Dr. Sharpe's remarks in your last number (above, p. 422) on the generic names *Micropus* and *Microtarsus*, I

observe that he does not include in his list of the species of the latter genus *M. nehrkorni*, which was discovered by Dr. Platen in Mindanao, and was described by Dr. W. Blasius in Cabanis's Journal for 1890 (J. f. O. 1890, p. 147). Dr. Blasius remarks that this species may possibly be the *Muscicapa luzonensis*, Gm., which was insufficiently described and has not been recognized since.

In case the members of the British Ornithologists' Club would like to examine the type specimen of *M. nehrkorni* which is in my collection, I shall be glad to send it to you for that purpose, and hope that Dr. Sharpe will compare it with examples of *M. melanoleucus* *.

I am, Sir,

Yours &c.,

A. NEHRKORN.

Riddagshausen, Brunswick,

July 14, 1894.

SIR,—In the last number of 'The Auk' † I find some critical remarks by Mr. Ridgway on certain parts of my 'Catalogue of the Game Birds in the British Museum.' I regret to observe that Mr. Ridgway introduces into his remarks expressions which, on this side of the Atlantic, would be considered almost offensive, and which surely ought not to find any place in a scientific controversy.

In his 'Manual,' p. 191, Mr. Ridgway recognizes two distinct subspecies of the Mountain-Partridge. One form, which I shall refer to as "A," *Oreortyx pictus* (Doug.), is said to range along the "Pacific coast district, from San Francisco north to Washington Territory," while the second (B), which is styled *O. pictus plumiferus* (Gould), is said to be confined to "Sierra Nevada (both sides) from Oregon southward; southern coast district of California?, Lower California?" "A" is described as "above deep olive-brown or umber, this colour usually continued uninterruptedly over hind neck to the crest; inner edges of tertials deep buff or

* [In Dr. Sharpe's note above referred to, the second specific name, "*melanocephalus*," appears to have been a *lapsus calami* for *melanoleucus*. The specimen has arrived safely, and shall be compared.—ED.]

† Auk, xi. no. 3, p. 193 (1894).

ochraceous; forehead entirely ashy." "B" is characterized as "above greyish olive, the hind neck usually partially or wholly plumbeous, like the breast; under edges of the tertials light buff or buffy whitish; forehead distinctly paler (often whitish) anteriorly."

The large series of specimens which is now before me shows that the above-given characters are in no way dependent on any difference of geographical area, being found equally in coast birds and in those from the Sierra Nevada. The number of examples tabulated by Mr. Ridgway, the whole of his available material, is somewhat less than that in the British Museum; and, though our series includes specimens from many of the identical localities mentioned in his list, the marked distinctions on which he lays such stress are not to be seen! This is very remarkable; and I look forward with interest to the first opportunity of examining the series of *O. pictus* in the Smithsonian Institution and in the Department of Agriculture at Washington. The colour of the mantle and nape—which after all is the only tangible difference between the supposed subspecies, whatever Mr. Ridgway may say to the contrary—is most certainly sexual. Younger females have the upper mantle and nape, as far as the crest, uniform olive-brown. In older birds of the same sex these parts become greyer, but are always more or less mixed with olive-brown on the middle of the mantle and nape, even in the oldest examples. Younger males resemble the old females, while the fully adult males have the mantle and nape uniform grey like the breast. The British-Museum series does not show any differences in the forehead, all examples being perfectly alike in this respect, and the edges of the tertials vary from nearly white to ochraceous in different individuals, but without respect to locality.

There can be, therefore, in my opinion, no question as to the propriety of suppressing *Oreortyx pictus plumiferus*, as having no real existence. As I have already stated in my Catalogue (p. 398, footnote), it is founded on male specimens of *O. pictus*, and the differences of plumage have nothing whatever to do with geographical variation.

Our series of *O. pictus* from Carson, Nevada, may, I think, be reasonably considered as a "good one," for it includes nine birds, four males and five females. These are entered in my Catalogue (*op. cit.* p. 399) as

"e'-n'. ♂ ♀ ad. sk. Carson, Nevada, Nov., Salvin-Godman Coll.
Dec. (*H. W. H.*).

On reading this most people would understand that "e'-n'" includes nine specimens, the letter "j" not being reckoned. But apparently Mr. Ridgway does not comprehend this; for he says (*op. cit.* p. 195, footnote): "It would be interesting to know where these specimens are, and what the author considers a 'good series.' Only *two* specimens from Carson are mentioned in the list of specimens in the British Museum Collection!"

The distinctions shown in Mr. Ridgway's plate are, in my opinion, individual. The figure on the left seems to illustrate a fully adult male in worn and faded plumage, while that on the right may represent either a younger male or an adult female freshly moulted, and, therefore, more richly coloured.

Dr. Allen, in reviewing my work in the previous number of 'The Auk' (pp. 171, 172), says—"it seems about time to expect a more 'intelligent conception' of the subject of subspecies and 'climatic variation' than is shown in the present volume." If *Oreortyx pictus plumiferus* is a specimen of the "intelligent conception" referred to, then I prefer my own opinion and that of many eminent English ornithologists whose criticisms I have invited on this subject.

Facts and common sense are, in my view, better than all the "intelligent conception" in the world.

I am, Sir,

British Museum
(Natural History),
July 28, 1894:

Yours &c.,

W. R. OGILVIE GRANT.

SIR,—In the July number of 'The Ibis' for the present year (*ante*, pp. 367-374) is a list of 35 birds observed in Dras and Suru by Lieut. W. W. Cordeaux. The names

applied to the species mentioned below, which were only seen, and of which no specimens appear to have been collected for comparison, are, I think, open to question.

1. *GYPS FULVUS*.—The common *Gyps* of the Himalayas is *G. himalayensis*, Hume. *G. fulvus* (verus = *G. fulvescens*, Hume) may also occur, but the bird described by Jerdon as *G. fulvus* (and Lieut. Cordeaux appears to have taken his nomenclature chiefly from Jerdon) is *G. himalayensis*.
5. *POLIOÆTUS ICHTHYÆTUS*.—Lieut. Cordeaux is very probably right in suggesting that the fishing-eagles noticed by Adams in Kashmir (P. Z. S. 1858, p. 471) were wrongly identified as *Haliaëtus fulviventor* (*H. macei* of Adams = *H. leucoryphus*); but he is, I think, mistaken in identifying the birds seen by him—"conspicuous for their grey heads, in some old birds nearly white, all the feathers centred with dusky shafts"—with *P. ichthyaëtus*, which has whitish shaft-stripes to the feathers of the head, and which, like *Haliaëtus leucoryphus* (*fulviventor*), is not a Himalayan Eagle, at all events in general. The Kashmir bird with dusky shaft-stripes is evidently the common Himalayan species, *P. plumbeus*, Hodgson, which is a large race of the Malayan *P. humilis*.
9. *INX INDICA*.—What the reddish-coloured Wryneck can have been it is very difficult to say; but it has now for more than twenty years been generally understood that *Iynx indica* was founded on a specimen of the South-African *I. pectoralis* (Blyth, Ibis, 1872, p. 90; Hume, Stray Feathers, vii. p. 459; Hargitt, Cat. Birds B. M. xviii. p. 565). It is a matter for regret that a specimen of the Wryneck seen was not secured and preserved.
16. *BUDYTES CITREOLA*.—The species named has never been found breeding in any part of the Himalayas, but the nearly-allied Yellow Wagtail that bears the extraordinary name of *Motacilla* (*Budytes*) *citreoloides* breeds commonly in Kashmir. The two were not distinguished by Jerdon.

22. *CERCOMELA MELANURA* (?).—It is some consolation to see a note of interrogation placed to this name. Whatever the bird seen in the Wurdwan valley may have been, it may be confidently assumed that it was not *Cercomela melanura*, which has never been obtained by anyone east of the Persian Gulf, although it is a conspicuous bird for its size and easily recognized.

Lieut. Cordeaux speaks of the bird he saw as corresponding “exactly with Jerdon’s description of Sir A. Burne’s specimen.” Jerdon’s description was probably taken from an Abyssinian skin; no specimen collected by Sir Alexander Burnes (not Burne) is known. Amongst some very indifferent drawings in the collection made by Sir A. Burnes was one of a Sind bird, of which Blyth wrote in 1847 (*J. A. S. B.* xvi. p. 131):—“Among Burnes’s drawings there is a rude figure of what is probably *Sax. melanura*, Temm.” On the strength of this note of Blyth’s, and without any other evidence whatever, at a time when the birds of Sind were almost unknown, Jerdon unfortunately inserted the name and description of the species in the ‘Birds of India.’ Thanks to Hume and others, the Sind fauna is now particularly well explored, scarcely any part of India has been more thoroughly searched, but no specimen of *Cercomela melanura* has even been seen, much less shot. I know the bird well; I shot it repeatedly on the coastland of the Red Sea. I have spent three seasons in Sind and travelled over the greater part of the province; I have also travelled in Baluchistan and Persia, and I certainly never met with *Cercomela melanura*. I do not believe the bird exists in Persia, Baluchistan, or Sind, and its occurrence in Kashmir is even more improbable.

33. *ÆGIALITIS GEOFFROYI* (?).—In this case also a note of interrogation is appended, and with justice, because it would be difficult, even for one who knows the species well, to distinguish *Æ. geoffroyi* from *Æ. mongolicus*, when out of shot on a sandbank in the middle of a river. Adams (*P. Z. S.* 1858, p. 505; 1859, p. 188) identified

a Shore Plover that he obtained on the Tso-morari with *Æ. leschenaulti* (= *Æ. geoffroyi*), but Jerdon rightly referred Adams's bird to *Æ. pyrrhotorax* (= *Æ. mongolicus*), as Harting showed (*Ibis*, 1870, p. 382), and the same species was obtained in the Upper Sutlej valley by Stoliczka (*J. A. S. B.* xxxix. p. 69; *Ibis*, 1868, p. 321). This, therefore, is far more likely to have been seen in Suru than *Æ. geoffroyi*, which is seldom found away from sea-coasts.

Unfortunately, names once published in 'The Ibis' are likely to be quoted as evidence of the occurrence of the birds to which they apply, and to be included in local lists, unless attention is at once called to the possibility of a mistake. This, I hope, will be accepted as my excuse for the preceding criticism.

July 30th, 1894.

W. T. BLANFORD.

SIR,—It has always been difficult to obtain examples of the Grey Partridge (*Perdix cinerea*) from Spain, because, in addition to the fact that the bird is an article of food, it is also very local, and almost, if not quite, confined to the mountain-districts of the northern half of the Peninsula. Not being numerous enough to be an ordinary object of pursuit, specimens rarely come into the markets of the towns, and when they do are immediately secured for the table by the housewives, who get up very early in the morning and arrive on the scene of action long before the average tourist or even naturalist. Under the circumstances of comparative isolation, it is not surprising that these Mountain-Partridges of Spain should present some peculiarities in appearance; but upon this point, as well as upon the geographical distribution of the species in the Peninsula, I will quote some MS. notes of our President, who is a past-master on the subject:—

"On first seeing a Spanish Grey Partridge in the flesh at Barcelona in 1856, I was struck by its difference from the form best known to me in England. In 1864 I examined

some stuffed specimens in Madrid said to have been sent from the Cordillera de León. I could not buy one, but noted the small size, very dark general tone of plumage, and the dark legs. I never myself shot a Grey Partridge in Spain, and have only seen it once or twice, in Aragón, in the grassy 'praderas' of the Pyrenees, far above all cultivation, and, in one instance, in a spot where one might rather expect to find Ptarmigan. I found from the natives that in Aragón these birds are well known, though by no means common, that they generally keep to an elevation of from 3000 to 6000 or 7000 feet, and are known by the name of *Fresana*. I heard much the same story about them in Navarre, except that they are there met with much lower down, and are generally known as *Perdiz gris*. In the mountains of Santander, on the frontier of Asturias, in 1876, though I never saw one alive or dead, I distinctly recognized the call of this bird at some 4000 feet above the sea-level, and found that a few of the villagers knew of their existence and called them *Perdiz parda*."

In the J. f. O. 1892, p. 226, Herr Reichenow, who received an example of a Partridge from La Coruña, Galicia, North-western Spain, has bestowed upon the Galician bird the name of *Perdix hispaniensis*; but Mr. W. Ogilvie Grant, in his recently-published 'Catalogue of the Game Birds in the British Museum' (vol. xxii. p. 560), has treated a specimen recently received from La Coruña as a mere form of *Perdix cinerea*. Both the specimens above mentioned were obtained from Dr. V. L. Seoane, of that town. Such being the scarcity of material, I was glad to have placed in my hands by Lord Lilford three examples of Spanish Partridges, namely a male from Lugo, Galicia (*Dr. Seoane*), and two females from Ponferrada, in León, on the south side of the Cantabrian range. With these I visited the Natural History Museum, and there Mr. Grant and I went through the entire series of *Perdix cinerea*. What constitutes a separable species must in many cases remain a matter of opinion, but if the variations observable in the present case are considered sufficient, the subdivisions of species will soon rival those of Brehm.

The chestnut colour of the forehead, cheeks, superciliary streak, and throat is very bright in these Spanish examples, but can be matched in birds from the south of Europe, notably in a bird of mine from the Naples market. The horse-shoe on the breast is certainly small and very dark, but that can be matched in Hungarian examples. Many Partridges from different localities have a faint hair-streak of dark brown near the tip of the shaft of the tail-feathers, but in one of the Ponferrada females this is developed into a dark spot to an unparalleled extent. The male from the same locality shows no trace of this streak, so that it cannot be considered constant. Whether, however, the Spanish form is entitled to specific distinction or not must, as has been said, remain a matter of opinion.

Dr. V. L. Seoane, in the 'Mémoires de la Société Zoologique de France' (1894, p. 93), claims, *inter alia*, to have already named this Spanish bird *Perdix cinerea charrela*, and I have before me a pamphlet in which that title appears, dated La Coruña, 1870—22 years before Dr. Reichenow's. Upon the validity of this claim, however, reference may advantageously be made to Mr. C. Davies Sherborn's remarks in *Ann. & Mag. Nat. Hist.* 1894, xiv. p. 154.

I am, Sir,

Yours &c.,

August 1st, 1894.

HOWARD SAUNDERS.

The new extinct Gigantic Bird of Australia.—In the number of this Journal for April last (above p. 328) we mentioned from hearsay the supposed occurrence of a new extinct gigantic bird in the Diprotodon beds of Lake Callabonna (formerly Mulligan) in South Australia, which Dr. Stirling is now exploring. In a recent number of 'Nature' (vol. l. p. 206, 1894) Dr. Stirling gives a preliminary account of his discoveries, from which we reprint the following passages relating to this wonderful new bird:—

"Of the great Birds, which appear to be all of one species and nearly of one size, we have, as stated, two skulls of extraordinary size, in passable condition; but, as these have

not yet been developed, it is not possible to give their characters or exact measurements. They, however, certainly exceed 11 inches, and possibly reach 12 inches in length. There are besides three pelves, one sternum, a whole vertebral series, including the tail, several ribs, two partially complete sets of wing-bones, and a dozen or more legs complete, so that the collection probably comprises nearly all the bones of the skeleton. The femur is of the same massive build as that of *Dromornis australis*, and even exceeds it in size. Moreover, so far as can be judged from description and plates, it differs from it in contour and section, which is greatly compressed antero-posteriorly, and in some other particulars. The differences between the two tibiae are also considerable, especially in respect of the existence in the new fossil of a bony ridge across the precondylar groove. The proximal end of the femur differs also from the fragment assigned by Mr. De Vis to *Dinornis queenslandiæ*, but not accepted as such by Captain Hutton. Apart from the vast differences of proportion, the leg-bones of the new fossil have many points of resemblance to those of *Dromæus* in the disposition of salient anatomical features, a similarity which has been noted by Sir R. Owen in the case of *Dromornis*. The foot (relatively small, when compared with that of *Dinornis elephantopus*) is tridactyle, the outer toe appearing to possess only four phalangeal segments.

“Of the wing we fortunately possess two examples, one wanting only the phalangeal portion, the other more imperfect. Comparing it with this appendage of the same Emu, where the humeral and radio-ulnar segments are respectively 10 cm. and 7·5 cm. in length, I find that the corresponding segments of the fossil bird are 8·9 cm. and 10 cm. and considerably thicker.

“The remaining bird-bones are in the collection which has yet to reach Adelaide, and I can, therefore, give no particulars of them from personal observation. There can, however, I think, be no doubt, even from the above limited observations, that these bird-remains indicate the former existence of a large extinct struthious bird distinct from both *Dromornis* and the *Dinornis queenslandiæ* of De Vis.”

The Birds of Damma Island.—The volcanic Island of Damma, one of the northernmost outliers of the Serwatty group near Timor-Laut, was visited by H.M.S. surveying-ship 'Penguin' in November 1891, and Dr. P. W. Bassett-Smith and Mr. James Walker made a collection of Natural History specimens, of which an account is given in the July number of the 'Annals' (Ann. & M. N. H. (6) xiv. p. 49). The birds, which have been determined by Dr. R. B. Sharpe, are referred to 10 species, of which *Zosterops bassetti* is now described as new, and *Rhipidura büttikoferi* had been previously named from specimens obtained on this occasion. The species generally are stated to be "almost identical with those of Timor-Laut on the one hand and Timor on the other," though some may be peculiar.

The Jackson-Harmsworth Polar Expedition.—The new Polar Expedition, led by Mr. F. G. Jackson and financed by Mr. A. C. Harmsworth, which sailed from the Thames on July 12th in the SS. 'Windward,' for Franz-Josef's Land *viâ* Archangel and Nova Zembla, is accompanied by Mr. Fisher, Curator of the Nottingham Museum, as Naturalist. Mr. Fisher is, we believe, primarily a botanist, but will find in Franz-Josef's Land more animal life than vegetables to study. According to the Austrian explorers there are only some 4 or 5 flowering plants found in Franz-Josef's Land, but nearly 20 species of birds, amongst which is one Passerine—*Plectrophenax nivalis*. We hope that Mr. Fisher may succeed in adding to the list.

The Destruction of Small Birds.—While on the Continent the demand for "gibier" is effecting a continuous decrease in the numbers of Passerine birds, in America it would seem that the scarcity of native birds, especially in the neighbourhood of the larger towns, is largely attributable to the destruction wrought by the "army of unscrupulous small boys." This wilful destruction, Dr. Shufeldt tells us, has been much facilitated by the numerous comparatively recent and cheap inventions in the way of air- and spring-guns,

as well as cheap rifles of small calibre, also other fatal contrivances that will noiselessly throw missiles of a variety of kinds with great accuracy. Hundreds of those guns are sold annually to boys, who never seem to tire of strolling about orchards and hedgerows and knocking over dozens upon dozens of birds with them. One day last spring Dr. Shufeldt met one such youngster, and upon examining his game-bag found it absolutely crammed with dead birds which he had killed since starting out in the morning. One item alone consisted of seventy-two Ruby and Golden-crowned Kinglets. The same fellow boasted of having slain over one hundred Cat-birds that season.

Mr. Cory's Collection of Birds.—We learn from the last number of 'The Auk' that Mr. Charles B. Cory, of Boston, U.S.A., has recently sold his large collection of birds and his ornithological library to the Field-Columbian Museum of Chicago, and has accepted the Curatorship of the Department of Ornithology, which is to be entirely under his direction, in that Institution.

Obituary.—MR. BRIAN H. HODGSON, DR. L. COULON, and MR. P. L. JOUY.

The name of BRIAN HOUGHTON HODGSON, formerly of the East India Company's Civil Service, who has lately passed away at the ripe age of 94, is well known to all ornithologists, especially to those who have studied the Avifauna of India. More than half a century has elapsed since he retired from a distinguished public position to devote himself to the unrequited labour of Indian research. Born on February 1, 1800, he entered the Indian Civil Service in 1818, and won by his brilliant talents the position of Secretary to the Nepal Embassy before he was 21. At the age of 33 he was appointed British Resident in Nepal, a post which he retained until his retirement, after 25 years' service, in 1843. The next fifteen years he devoted, with a brief interval, to completing his researches in India, after which he returned to England.

It was during his long residence in Nepal that Mr. Hodgson devoted his attention to Natural History. To the British Museum he presented more than 10,000 zoological specimens, and one of the series of the older zoological catalogues is occupied with an enumeration of the multitudinous specimens and drawings of the mammals, birds, reptiles, and fishes of Nepal and Tibet accumulated by his indefatigable energy and transmitted to the National Collection. It is quite unnecessary to give here the titles of Hodgson's numerous ornithological papers. Reference to the standard works of Jerdon, Hume, and Oates on Indian ornithology will show that nearly every page contains his name, while some twenty species of Indian birds bear the specific title *hodgsoni*. An excellent portrait of Mr. Hodgson is contained in the first volume of Mr. Oates's edition of Hume's 'Nests and Eggs of Indian Birds.' Every mark of distinction which the learned societies of Europe could confer was deservedly bestowed upon Hodgson, but, as might have been expected, he was never knighted nor asked to become a member of the House of Lords. The last thirty years of his life he spent in a delightful home in Gloucestershire, Alderley Grange, near Wotton-under-Edge.

All ornithologists who have had occasion to refer to the type specimens of Tschudi's Peruvian birds contained in the Museum of Neuchâtel will recognize the name of M. le Dr. LOUIS COULON, President of the Society of Natural Sciences of that city since 1836, who died there on the 13th of June last at a good old age. M. Coulon was always most courteous and kind in answering inquiries concerning the valuable contents of the museum under his charge, and in arranging for the loan of the specimens when required. His name is commemorated by *Ara couloni*, *Scl.*, P. Z. S. 1876, p. 255.

In 'The Auk' (1894, p. 262) we see with much regret the announcement of the death, at the early age of 38, of the well-known Smithsonian Collector, PIERRE LOUIS JOUY, who was born in New York city February 8, 1856, and died in Tucson, Arizona, on March 22, 1894, from consumption of the

lungs. We borrow from our contemporary the following notes on the career of this Naturalist:—"Although his interest and work were scattered over a wide field, ornithology was, from an early day, Jouy's favourite study, and naturally enough his first interest centred around the birds of Washington, D.C., where most of his life was spent. But Prof. S. F. Baird, one of whose devoted pupils he was, had work for him in other fields, and as an opportunity offered itself in 1881 he went out to China and Japan, where he made extensive collections for the Smithsonian Institution. His ornithological collections from Central Japan were eminently valuable, on account both of their extent and quality, and especially because of the full notes which accompanied them. These results were embodied in a paper published in the 'Proceedings of the U.S. National Museum' for 1883, one of the most important contributions to our knowledge of the Japanese avifauna. From Japan Jouy went to Corea, and at once proceeded to form one of the largest and most valuable natural-history collections ever made in that distant land, then almost entirely unknown—collections which were afterwards enriched and completed during a sojourn of several years at Fusan while holding a position in the Chinese customs service of Corea. These collections, after his return home, were acquired for the greater part by the U.S. National Museum, and it had been Jouy's full intention to work up the splendid material which he had gathered. But the museum at first needed his services in other branches, and afterwards failing health, which exhausted his strength and made it desirable to seek other climates, prevented the accomplishment of this desire. He went out collecting again, this time to Southern Arizona and Mexico, where, in spite of adverse circumstances, he continued his work and observations, helped by his faithful wife. The notes made during their stay in Mexico he was able to work up into a paper entitled 'Notes on Birds of Central Mexico, with Descriptions of Forms believed to be new' [see above, p. 558], but he did not have the satisfaction of seeing it published, as it was not issued until shortly after his death."

INDEX OF SCIENTIFIC NAMES.

1894.

- Acanthopneuste davisoni*, 482.
Accipiter manillensis, 503.
 — *nisus*, 316, 452.
 — *pallens*, 316.
 — *rufiventris*, 452.
 — *virgatus*, 503.
Acmorhynchus annæ, 436.
Acomus pyronotus, 544.
Acredula calva, 291.
 — *caudata*, 567.
 — *glaucogularis*, 291, 292.
Acridotheres tristis, 42, 47.
Acrocephalus dumetorum, 45.
 — *familiaris*, 133.
 — *fulvolateralis*, 13.
 — *palustris*, 305.
 — *phragmitis*, 344.
 — *stentoreus*, 45.
 — *turdoides*, 13, 344.
Aerulocercus apicalis, 447.
 — *bishopi*, 446, 447.
Actiturus bartramius, 209.
Actodromas temmincki, 299.
Æchmophorus major, 152, 211.
Ægialitis cantiana, 347.
 — *collaris*, 206.
 — *curonica*, 72, 347.
 — *geoffroyi*, 373, 574, 575.
 — *hiaticula*, 233.
 — *leschenaultii*, 575.
 — *mongolicus*, 574, 575.
 — *peroni*, 243, 258.
 — *pyrrhotorax*, 575.
 — *tricollaris*, 26.
 — *varius*, 474.
Ægithalus consobrinus, 333.
 — *pendulinus*, 292.
 — *stoliczkae*, 292.
Ægithina tiphia, 43.
 — *viridis*, 421.
 — *viridissima*, 543.
Ægotheles bennetti, 148.
Ælurædus viridis, 443.
Æpyornis cursor, 308.
 — *hildebrandti*, 141, 303.
 — *ingens*, 308.
 — *lentus*, 308.
 — *maximus*, 303, 308.
 — *medius*, 141.
 — *modestus*, 141.
 — *mulleri*, 308.
 — *titan*, 303, 308.
Æthopyga bella, 513, 550.
 — *dabryi*, 331, 484.
 — *flavipectus*, 513, 550.
 — *temmincki*, 543.
Agapornis liliana, 466.
 — *roseicollis*, 466.
Agelæus flavus, 173.
 — *phœniceus*, 360.
 — *thilius*, 173.
Aimophila rufescens pal-lida, 441.
Aithurus polytmus, 547.
 — *taylori*, 548.
Aix sponsa, 126.
Ajaja rosea, 199.
Alæmon alauides, 81, 85, 92.
Alauda arvensis, 231.
 — *cristata*, 93, 124, 346.
 — *macrorhyncha*, 81, 82, 83, 93.
Alca impennis, 107, 108, 297, 327, 428, 441, 549, 554.
 — *torda*, 237.
Alca umisuzume, 225.
Alcedo asiatica, 246.
 — *bengalensis*, 56, 258.
 — *ispida*, 409, 520.
 — *meninting*, 245, 258.
 — *semitorquata*, 5, 467.
Alcippe cinerea, 542.
 — *nepalensis*, 480.
Electroenas nitidissima, 441.
Electrurus risorius, 177.
Amaurestes fringilloides, 21.
Amaurocichla bocagii, 139.
Amaurolimnas concolor, 299.
Amauropsis malaccensis, 543.
Amauornis phœnicura, 243, 257.
Amblycercus solitarius, 171.
Amblyornis subalaris, 443.
Amblyospiza albifrons, 20, 470.
Amblyrhampus holosericeus, 173.
Ammomanes deserti, 82, 83, 93.
Ammoperdix heyi, 118.
Ampelis maesi, 442.
Amydrus morio, 19.
Anæretes sclateri, 442.
Anas boscas, 72, 342, 349.
 — *laysanensis*, 133.
 — *sparsa*, 28.
 — *strepera*, 72.
 — *supercilliosa*, 31.
 — *xanthorhyncha*, 478.
Anastomus lamelligerus, 477.

- Andropadus alexandri*, 561.
 — *hypoxanthus*, 11.
 — *oleaginus*, 11.
 — *virens*, 10.
 — *zombensis*, 2, 10.
Anorrhinus galeritus, 544.
Anous atrofuscus, 568.
 — *cæruleus*, 568.
 — *cinereus*, 568.
 — *hawaiiensis*, 133, 568.
 — *leucocapillus*, 568.
 — *melanogenys*, 30, 133, 568.
 — *stolidus*, 133.
Anser brachyrhynchus, 348.
 — *cinereus*, 232.
Anthipes olivacea, 541.
Anthocephala berlepschi, 120.
 — *floriceps*, 120.
Anthocincla phayrei, 305.
Anthodiata zambesiana, 14.
Anthothreptes chlorigaster, 251, 532.
 — *hypodilus*, 14.
 — *hypogrammica*, 543.
 — *longuemarii*, 14.
 — *malaccensis*, 251, 259.
 — *phœnicotis*, 543.
 — *simplex*, 543.
 — *zambesiana*, 14.
Anthraceros malayanus, 544.
 — *montani*, 258.
Anthus cervinus, 230, 516.
 — *correndera*, 163, 215.
 — *gustavi*, 259.
 — *lineiventris*, 23.
 — *maculatus*, 52, 484, 516.
 — *obscurus*, 230.
 — *pratensis*, 230.
 — *rufulus*, 23, 53, 516.
 — *trivialis*, 313, 346.
Antrostomus parvulus, 188.
Anumbius acuticaudatus, 178, 183.
Aphanolimnas monasa, 556.
Aphelocoma cyanotis, 559.
Aplonis rufipennis, 31.
Aptenodytes forsteri, 499.
 — *imperator*, 107.
 — *pennanti*, 499.
Apteryx australis, 429, 430.
 — *haasti*, 429, 430.
 — *mantelli*, 429.
 — *occidentalis*, 429.
 — *oweni*, 429, 430.
Aquila bifasciata, 283, 284.
 — *bonellii*, 289.
 — *chrysaëtus*, 96, 286.
 — *clanga*, 63, 120, 288.
 — *fasciata*, 288, 289.
 — *fulvescens*, 285.
 — *hastata*, 288.
 — *heliaca*, 283, 284, 286.
 — *imperialis*, 283, 284.
 — *maculata*, 120, 288.
 — *mogilnik*, 284.
 — *nævia*, 287.
 — *nipalensis*, 283, 284.
 — *pennata*, 289.
 — *pernigra*, 289.
 — *pomarina*, 288.
 — *rufonuchalis*, 288.
Ara auricollis, 546.
 — *couloni*, 581.
Arachnechthra zeylonica, 53.
Arachnorhaphis crassirostris, 543.
 — *everetti*, 316.
 — *flavigastra*, 538.
 — *flaviventris*, 538.
 — *modesta*, 317.
Arachnothera chrysogenys, 543.
 — *longirostris*, 543.
Aramides gutturalis, 445.
 — *ypecaha*, 204.
Arboricola ardens, 376.
 — *erythrophrys*, 377, 539.
 — *gingica*, 406.
 — *hyperythra*, 539.
Archæopteryx lithographicus, 106.
Archibuteo lagopus, 232.
Ardea ardesiaca, 27.
 — *cærulea*, 198.
 — *calceolata*, 431.
Ardea cinerea, 119.
 — *cocoi*, 197.
 — *egretta*, 198.
 — *garzetta*, 535.
 — *goliath*, 27, 119.
 — *manillensis*, 427.
 — *melanocephala*, 27.
 — *purpurea*, 27, 69, 427.
 — *rufiventris*, 432.
Ardeirallus flavicollis, 118, 427.
 — *gouldi*, 427.
 — *melas*, 427.
 — *nesophilus*, 427.
 — *prætermisus*, 118.
 — *sturmi*, 431, 476.
 — *woodfordi*, 118.
Ardeola comata, 27, 119, 476.
 — *grayi*, 69, 71.
Ardetta cinnamomea, 70, 426, 522.
 — *erythromelas*, 425, 426.
 — *eurythma*, 426.
 — *exilis*, 425, 426.
 — *involucris*, 199, 426.
 — *minuta*, 425.
 — *neoxena*, 425.
 — *podiceps*, 425.
 — *pusilla*, 426, 476.
 — *sinensis*, 70, 258, 425.
Argusianus grayi, 544.
Argya acaciae, 118.
 — *fulva*, 81, 88.
Artamia bicolor, 434.
 — *comorensis*, 434.
Artamides guillemardi, 254, 257, 259.
 — *mindorensis*, 254.
 — *pollens*, 254.
 — *schistacea*, 254.
 — *striatus*, 408, 505.
Artamus fuscus, 46.
 — *leucogaster*, 252, 259, 517.
 — *leucorhynchus*, 253, 544.
Arundinax ædon, 45.
Asio accipitrinus, 61, 85, 95, 119, 552.
 — *brachyotus*, 193.
 — *capensis*, 465.
Astrarchia stephaniae, 442, 443.
Astur badius, 47, 62.
 — *cuculoides*, 333.
 — *polyzonoides*, 2, 464.

- Astur soloensis*, 333.
Asturina monogrammica, 2, 464.
Athene brama, 526.
 — *glauca*, 80, 95.
 — *pulchra*, 526.
Atticora cinerea, 316.
 — *cyanoleuca*, 166.
 — *fucata*, 167, 215.
Aythya capensis, 478.

Babax lanceolatus, 330.
Balaniceps rex, 108.
Balearica chrysopolargus, 444, 474.
 — *gibbericeps*, 444.
Bambusicola erythrophrys, 539.
Basileuterus rufifrons juyi, 559.
 — *vermivorus olivaceus*, 437.
Batrachostomus auritus, 545.
 — *stellatus*, 544.
Baza sp., 3.
 — *cueuloides*, 3.
 — *timorlaensis*, 127.
 — *verreauxi*, 3.
Bernicla antarctica, 497.
 — *brenta*, 347.
 — *magellanica*, 497.
 — *ruficollis*, 107.
Bhringa remifer, 482.
Bocagia anchietæ, 434.
 — *minuta*, 434.
Bolbopsittacus lunulatus, 410.
Bolborhynchus monachus, 192.
Bonasa umbellus, 310.
Botaurus pusillus, 476.
 — *stellaris*, 70.
 — *sturmi*, 476.
Brachypternus aurantius, 54.
Bradyornis ater, 18.
 — *boehmi*, 435.
 — *murinus*, 470.
 — *oatesii*, 470.
 — *pallidus*, 18, 470.
 — *sharpii*, 435.
Bradypterus brachypterus, 12.
 — *nyassæ*, 12.
Bubo ignavus, 524, 531.
 — *maculosus*, 3, 465.
 — *philippensis*, 503.
 — *turcomanus*, 524.

Bubuleus coromandus, 69, 243, 258.
Buceros buccinator, 6.
 — *rhinoceros*, 544.
Buchanga aldabrana, 314.
 — *assimilis*, 18.
Budytes citreola, 370, 573.
 — *flavus*, 313.
 — *viridis*, 259.
Butastur indicus, 258, 503, 534.
Buteo albicaudatus sennetti, 123.
 — *desertorum*, 2.
 — *erythronotus*, 194.
 — *ferox*, 119, 530.
 — *fuliginosus*, 530.
Buthraupis arcæi, 314.
 — *cæruleigularis*, 314.
Butorides amurensis, 295, 542.
 — *atricapilla*, 119, 295, 476.
 — *cyanurus*, 198.
 — *javanica*, 70, 224, 244, 258, 295, 296, 425, 522.
 — *macrorhyncha*, 296.
 — *plumbea*, 296.
 — *rutenbergi*, 295.
 — *spodiogaster*, 296.
 — *stagnatilis*, 296.
 — *striata*, 295.
 — *virescens*, 296.
Bycanistes buccinator, 6, 467.

Cabalus dieffenbachii, 445.
 — *modestus*, 140.
Cacatua gymnopis, 454.
 — *hamaturophygia*, 247, 258.
Caccabis chukar, 335.
 — *petrosa*, 80, 98.
Cacomantis merulinus, 247, 258, 520.
 — *sepulchralis*, 247.
Calandrella brachydactyla, 94.
 — *minor*, 94.
Calcarius lapponicus, 125, 231.
Calidris arenaria, 541.
Callene anomala, 11, 468.
Callialeyon coromanda, 417.

Calliope camtschatkensis, 49, 508.
Calliperidia furcifera, 185.
Calodromas elegans, 213, 453.
Calœnas nicobarica, 243, 257.
Caloperdix oculea, 376.
Calornis cantoroides, 29.
 — *chalybeus*, 257, 544.
 — *metallica*, 29.
 — *panayensis*, 250, 257, 258.
Calyptomena hosei, 544.
 — *viridis*, 544.
Campephilus boiei, 189.
Campophaga melanoptera, 218, 483.
 — *nigra*, 18.
 — *sykesi*, 46.
Campothera abingdoni, 9.
 — *abingtoni*, 9.
 — *cailliaudi*, 9.
Camptolæmus labradorius, 441.
Campylopterus hemileucurus, 37.
Caprimulgus albonotatus, 59.
 — *andamanicus*, 519.
 — *asiaticus*, 59.
 — *celebensis*, 502, 519.
 — *europæus*, 59.
 — *eximius*, 309.
 — *jotaka*, 217.
 — *manillensis*, 502, 518, 519.
Carcineutes melanops, 544.
Carduelis caniceps, 372.
 — *elegans*, 90.
Carine brama, 61, 433, 524.
 — *perlata*, 4.
 — *pulchra*, 433, 524, 526.
Carpococcyx radiatus, 544.
Carpodacus erythrinus, 372.
 — *sinaïticus*, 307.
 — *vinaceus*, 332.
Carpodectes nitidus, 313.
Carpophaga ænea, 242, 257, 420, 521.
 — *badia*, 544.
 — *bicolor*, 241.

- Carpophaga chalybura*, 521.
 — *muelleri aurantia*, 127.
 — *pickeringi*, 241, 257.
Casarca tadornoides, 317.
Casiornis rubra, 123.
Casuaris bennetti, 148.
 — *laglaizei*, 560.
 — *occipitalis*, 560.
Cathartes atratus, 196.
 — *aura*, 196.
Catharus melpomene clarus, 559.
Catrisus apicalis, 12.
Centrites niger, 178.
Centrocoecyx bengalensis, 56.
 — *eurycerus*, 247.
 — *javanensis*, 247.
 — *rufipennis*, 56.
Centropus javanicus, 247, 258, 520.
 — *natalensis*, 8.
 — *sinensis*, 247, 258.
 — *unirufus*, 410.
 — *viridis*, 258, 410.
Cerchneis dickersoni, 465.
Cercomela melanura, 372, 574.
Ceriornis satyra, 286.
Ceryle amazona, 190, 191.
 — *americana*, 190, 191.
 — *guttata*, 336, 369.
 — *maxima*, 5.
 — *rudis*, 6, 56, 336, 369.
 — *torquata*, 190.
Cettia cantans, 507, 508.
 — *cantillans*, 508.
 — *canturiens*, 508.
 — *cetti*, 507.
 — *minuta*, 508.
 — *seebohmi*, 507, 508.
Ceyx argentata, 417.
 — *bournsi*, 246, 258.
 — *cyanopectus*, 417, 520.
 — *euerythra*, 246, 258.
 — *malamaui*, 246, 258.
 — *margarethæ*, 246.
 — *melanura*, 417.
 — *suluensis*, 246.
Chætophila angustipluma, 433.
Chætura celebensis, 532, 533.
Chætura cinereiventris, 132.
 — *lawrencii*, 132.
 — *pelagica*, 37.
Chalcococcyx maculatus, 332.
 — *malayanus*, 247, 258.
Chalcomitra gutturalis, 14.
Chalcoptelia afra, 24, 472.
Chalcophaps indica, 55, 257.
 — *passerinus*, 55.
Chalybura intermedia, 309.
Chaptia ænea, 44.
 — *malayensis*, 543.
Charadrius dominicus, 206.
 — *pecuarius*, 474.
 — *placidus*, 336.
 — *pluvialis*, 233, 344.
 — *tricoloris*, 26, 475.
Chasiempis gayi, 315.
 — *sandwichensis*, 315.
 — *scateri*, 315.
Chauleasmus streperus, 224.
Chauna chavaria, 200, 268.
Chelidon urbica, 81, 90, 316.
Chettusia crassirostris, 475.
 — *leucura*, 119.
Chibia borneensis, 250, 258, 421, 543.
 — *hottentotta*, 44, 482.
 — *pectoralis*, 250.
Chimarrhorns bicolor, 509, 550.
 — *leucocephala*, 510.
Chionis alba, 495, 496, 497.
Chlamydochroa occipitalis, 443.
Chloris hortensis, 131.
Chloropeta natalensis, 469.
Chloropsis cyanopogon, 543.
 — *hardwickii*, 482.
 — *kinabaluensis*, 421, 543.
 — *zosterops*, 543.
Chlorospingus leotaudi, 437.
Chlorostilbon auriceps, 559.
Chlorostilbon splendidus, 185.
Chlorura borneensis, 518, 551.
 — *brunneiventris*, 518, 551.
 — *hyperythra*, 518.
Chordeiles virginianus, 37.
Chrysococcyx cupreus, 7.
 — *hodgsoni*, 332.
 — *klaasi*, 7.
Chrysocolaptes hæmatribon, 520.
 — *xanthocephalus*, 420, 534.
Chrysomitris bieti, 562.
 — *icterica*, 170.
 — *tibetana*, 562.
Chrysophilus cristatus, 189.
Chrysotis canifrons, 102, 103, 104, 105.
 — *finchii*, 559.
 — *ochroptera*, 102, 103, 104, 105.
 — *rothschildi*, 103, 104, 105.
 — *tucumana*, 546.
Cichladusa arcuata, 11.
Ciconia alba, 71, 345.
 — *nigra*, 224.
Cinclodes fuscus, 182.
Cinclus aquaticus, 490, 493.
 — *asiaticus*, 369.
 — *cashmirensis*, 370.
 — *melanogaster*, 229.
 — *sordidus*, 370.
Cinnyris cupreus, 14.
 — *falkensteini*, 13.
 — *guimarasensis*, 532.
 — *jugularis*, 251, 257, 259, 514, 515, 532, 551.
 — *juliæ*, 251, 259.
 — *obscurior*, 514, 551.
 — *pectoralis*, 257.
 — *sperata*, 514, 532, 551.
 — *teysmanni*, 303.
 — *whiteheadi*, 514, 551.
Circus æruginosus, 62, 119, 342.
 — *cineraceus*, 321.
 — *cyaneus*, 62, 321.
 — *macropterus*, 194.
 — *macrurus*, 118, 321.

- Circus melanoleucus*, 62, 258.
 — *spilonotus*, 122.
 — *swainsoni*, 321.
Cissa chinensis, 479.
Cisticola cinerascens, 12.
 — *cisticola*, 361, 418, 510.
 — *cursitans*, 45.
 — *emini*, 146.
 — *exilis*, 259, 418.
 — *nataleensis*, 12.
 — *orientalis*, 12.
 — *strangei*, 12.
Cittocinclu luzoniensis, 408.
 — *stricklandi*, 540.
 — *suavis*, 421, 542.
Climacteris mystacalis, 409.
Cnipolegus cyanirostris, 177.
Coceystes cafer, 7.
 — *glandarius*, 118, 327.
 — *hypopinaris*, 8.
 — *jacobinus*, 55.
Colaptes agricola, 189, 215.
Colius erythromelon, 7.
 — *striatus*, 7.
Collocalia esculenta, 31.
 — *linchi*, 246, 258.
Columba griseigularis, 243, 257.
 — *intermedia*, 373.
 — *leuconota*, 373.
 — *livia*, 80, 96.
 — *maculosa*, 201.
 — *nitens*, 139.
 — *picazuro*, 201.
 — *rupestris*, 373.
 — *versicolor*, 139.
Columbula picui, 202.
Colymbus adamsi, 228, 269-283.
 — *arcticus*, 132, 225, 237, 272, 279.
 — *glacialis*, 270, 272, 274-280.
 — *septentrionalis*, 237, 279, 363.
Conurus leucophthalmus, 150, 191, 402, 403.
 — *patagonus*, 192.
Copsychus amoenus, 257.
 — *mindanensis*, 253, 257, 259, 532.
 — *saularis*, 49.
Coracias caudata, 320.
Coracias garrula, 5, 118, 369.
 — *indica*, 59, 369.
 — *spatulatus*, 134, 305, 320.
 — *weigalli*, 299, 305, 320.
Corethrura pulchra, 445.
 — *reichenowi*, 445.
Corone philippina, 249, 258, 504.
Corvus affinis, 328.
 — *capensis*, 361.
 — *corax*, 231.
 — *cornix*, 231.
 — *florensis*, 436.
 — *frugilegus*, 361, 371.
 — *macrorhynchus*, 42, 55, 65, 479.
 — *philippinus*, 250.
 — *scapularis*, 118.
 — *scapulatus*, 19.
 — *splendens*, 42, 55.
 — *tingitanus*, 80, 95.
 — *umbrinus*, 307.
Corythaix leucolophus, 107.
Corythoichla brevicaudata, 480.
Corythornis cyanostigma, 5.
Coscoroba candida, 200.
Cosmetornis vexillarius, 4.
Cossypha heuglini, 11.
 — *quadrivirgata*, 11.
Cotile diluta, 316.
 — *riparia*, 316.
 — *rupestris*, 316.
 — *sinensis*, 52.
Coturniculus peruanus, 170.
Coturnix communis, 81, 98.
Cranorhynchus corrugatus, 544.
 — *waldeni*, 533.
Craspedophora mantoui, 442.
Crateropus canorus, 43, 55.
 — *kirki*, 11.
Crax erythrogna, 311.
 — *grayi*, 312.
 — *panamensis*, 312.
 — *slateri*, 203.
Crex crex, 119, 308, 444.
 — *pratensis*, 308, 342, 444.
Criniger diardi, 543.
Criniger gutturalis, 543.
 — *haynaldi*, 253.
 — *phaeocephalus*, 421.
 — *ruficrissus*, 543.
Crithagra chloropsis, 22.
 — *icterus*, 22.
 — *scotops*, 22.
Crossoptilon drouyni, 562.
 — *leucurum*, 553, 562.
 — *tibetanum*, 553, 562.
Cryptolopha affinis, 331.
 — *nigrorum*, 506.
 — *tephrocephala*, 331.
 — *vordermanni*, 304.
Cryptospiza reichenowi, 471.
Cuculus canorus, 95, 118, 232, 369.
 — *clamosus*, 7.
 — *intermedius*, 541.
 — *poliocephalus*, 332.
 — *solitarius*, 7.
 — *striatus*, 222.
Culicicapa ceylonensis, 331, 421, 483, 543.
 — *cinereocapilla*, 331.
 — *panayensis*, 256, 259, 506.
Cuncuma leucogaster, 241.
Cursorius chalcopaterus, 25, 474.
 — *gallicus*, 119.
Cutia nepalensis, 481.
Cyanecula suecica, 49, 229, 293, 370.
 — *wolfi*, 49.
Cyanistes berezowskii, 292.
 — *flavipectus*, 292.
Cyanocorax chrysops, 174.
Cyanoderma bicolor, 542.
Cyanops asiatica, 54.
 — *monticola*, 421.
 — *nuchalis*, 337.
 — *ramsayi*, 484.
Cyanotis azaræ, 179.
Cyclorhis ochrocephala, 165.
Cygnus bewickii, 130, 224.
 — *nigricollis*, 200.
Cymbirhynchus macrorhynchus, 544.
Cymindis wilsoni, 108.
Cyornis astigma, 47.
 — *hodgsoni*, 483.
 — *oatesi*, 483.
 — *philippinensis*, 256.

- Cyornis rubeculoides*, 483.
 — *superciliaris*, 47.
Cypseloides cherriei, 132.
Cypselus affinis, 59.
 — *apus*, 33, 37, 38, 95.
 — *batassiensis*, 59.
 — *melba*, 83, 95.
 — *pacificus*, 222, 334.
 — *toulsoni*, 4.

Dactylortyx thoracicus, 312.
Dafila acuta, 126, 349, 549.
 — *spinicauda*, 201.
Daption capensis, 150, 212, 495, 498.
Dasylophus superciliosus, 410.
Dasyrhamphus adelæ, 496.
 — *herculus*, 496, 499.
Daulias philomela, 13.
Deltarhynchus flammulatus, 314.
Demiegretta gularis, 119.
 — *sacra*, 244, 258.
Dendrobates dignus, 401.
 — *valdizani*, 401.
Dendrobiastes basilanica, 241.
Dendrocitta himalayensis, 470.
 — *rufa*, 42, 46.
Dendrocopus atratus, 484.
Dendrocyena major, 477.
Dendrocygna arcuata, var. *major*, 477.
 — *fulva*, 28, 200.
 — *javanica*, 225.
 — *major*, 464, 477.
 — *viduata*, 28.
Dendroca coronata, 293.
Dendrophila aenochlamys, 513, 550.
 — *corallipes*, 543.
 — *frontalis*, 513.
 — *mesoleuca*, 512, 550.
Dendropicus zanzibari, 9, 467.
Dicaeum aeneum, 29.
 — *concolor*, 516, 551.
 — *cyanotum*, 332.
 — *dorsale*, 552.
 — *erythrorhynchum*, 54.
 — *flaviventer*, 440.
 — *hematostictum*, 532.

Dicaeum hypoleucum, 252, 259.
 — *ignipectus*, 332, 515, 551.
 — *inornatum*, 516.
 — *luzoniense*, 515, 551.
 — *monticola*, 421, 515.
 — *obscurum*, 515, 551.
 — *pygmaeum*, 515.
 — *sibutuense*, 122, 251, 259.
 — *splendidum*, 303.
 — *trigonostigmata*, 122, 251, 252, 544.
Dicrocerus hirundinaceus, 5.
Dierurus ater, 44.
 — *balicassius*, 408, 505.
 — *cineraceus*, 482.
 — *longicaudatus*, 44.
Dienemellia ruspolii, 564.
Dinornis elephantopus, 578.
 — *queenslandiae*, 306, 578.
Diomedea chinensis, 133.
 — *fuliginosa*, 498.
 — *immutabilis*, 133, 548.
Dissemurus platurus, 543.
Dissura episcopus, 71.
Donacicola castaneithorax, 548.
 — *sharpii*, 548.
Donacospiza albifrons, 169.
Drepanis funerea, 328, 446, 447.
 — *pacifica*, 301.
Drepanornis bruijnii, 107, 433, 441.
 — *geisleri*, 127.
Dromæus ater, 441.
 — *novæ-hollandiae*, 300.
Dromas ardeola, 119.
Dromornis australis, 578.
Drymocataphus capistratoides, 543.
Dryonastes sannio, 217.
Dryoscopus æthiopicus, 17.
 — *albofasciatus*, 17.
 — *bicolor*, 17.
 — *casatii*, 17.
 — *cubla*, 16.
 — *finschi*, 17.
 — *gambensis*, 117.
 — *guttatus*, 17.
 — *major*, 17.

Dryoscopus major mosambicus, 16.
 — *mosambicus*, 1, 16, 17.
 — *neglectus*, 17.
 — *picatus*, 17.
 — *pringlii*, 117.
 — *sticturus*, 1, 16, 17.
Dubusia stictocephala, 386.
 — *tæniata*, 386.
Dybowskia kemoensis, 561.
Dysithamnus dubius, 393.
 — *schistaceus*, 393, 394.

Edoliisoma alterum, 505.
 — *cærulescens*, 259, 505.
 — *everetti*, 122, 254, 259.
 — *morio*, 122, 254, 255.
Elainea albiceps, 179.
Elanus cæruleus, 3, 65, 464.
 — *hypoleucus*, 244, 258, 534.
 — *leucurus*, 195.
Elminia schwebischii, 442.
Emberiza cia, 372.
 — *ciopsis ijimæ*, 316.
 — *elegans*, 332.
 — *flaviventris*, 23.
 — *fucata*, 321.
 — *melanops*, 332.
 — *miliaria*, 92.
 — *orientalis*, 23, 472.
 — *passerina*, 334.
 — *pusilla*, 217, 484, 517.
 — *pyrrhuloides*, 334.
 — *sahare*, 82, 92.
 — *schœniclus*, 52, 230, 321.
 — *spodocephala*, 332.
 — *sulphurata*, 517.
 — *tristrami*, 336.
 — *yessoensis*, 334.
Embernagra platensis, 170.
Engyptila chalcauchenia, 202.
Enneoctonus collurio, 15.
 — *reichenovi*, 434.
Entomobia gularis, 417.
Eos cardinalis, 30.

- Eos histrio talautensis*, 547.
Epimachus speciosus, 443.
Eremomela scotops, 13.
Eribates magnirostris, 314.
Eriocnemis evelinae, 309.
Erismatura ferruginea, 201.
—— *leucocephala*, 359.
Erithacus calliope, 508.
—— *philomela*, 13.
Erythrocopus rufiventris, 432.
Erythra phœnicura, 77.
Erythrochila bicolor, 543.
Erythromyias muelleri, 421.
Erythrophoxys prætermissa, 431.
—— *woodfordi*, 431.
Erythropygia zambesiana, 12.
Erythrospiza githaginea, 81, 91.
Estrela minor, 22.
Eucichla cyanura, 438.
—— *elliotti*, 305.
—— *guianensis*, 438.
Eudrepanis jefferyi, 513, 550.
—— *pulcherrima*, 513, 514, 550.
Eudromias modesta, 206.
—— *morinellus*, 83, 99, 233, 299.
Eudynamis honorata, 55, 257, 332.
—— *maculata*, 332.
—— *malayana*, 222.
—— *mindanensis*, 247, 257, 258, 520.
Eudytes antarctica, 500.
Eulabeornis woodfordi, 445.
Eulabes javanensis, 544.
Eulipoa wallacei, 312.
Eupetes macrocerus, 421, 542.
Euplocamus ignitus, 310, 311.
—— *nobilis*, 310, 544.
—— *nycthemerus*, 225.
Eupsychortyx moque-rysi, 430.
—— *sonnini*, 430.
Eurylamus javanicus, 544.
Eurylamus ochromelas, 544.
Eurynorhynchus pygmaeus, 217, 336.
Eurystomus afer, 5.
—— *calonyx*, 305, 332.
—— *glaucopterus*, 464, 467.
—— *lactor*, 305.
—— *orientalis*, 245, 258, 305, 332, 409, 519, 533.
Eutoxeres baroni, 309.
Euxenura maguari, 199.
Excalfactoria chinensis, 242, 257.
Falcinellus igneus, 477.
Falco æsalon, 232.
—— *atriceps*, 223.
—— *cassini*, 195.
—— *cenchris*, 96, 451.
—— *communis*, 223.
—— *dickinsoni*, 464.
—— *ernesti*, 545, 546.
—— *jugger*, 66.
—— *maculatus*, 287, 288.
—— *malayensis*, 289.
—— *melanogenys*, 223, 545.
—— *mogilnik*, 283, 284, 285, 286.
—— *nævus*, 287.
—— *peregrinus*, 195.
—— *severus*, 258.
—— *papuanus*, 127.
—— *tinnunculus*, 96, 302, 552.
Formicarius analis, 442.
—— *nigricapillus*, 442.
—— *saturatus*, 442.
—— *umbrosus*, 442.
Foudia aldabrana, 314.
Francolinus adspersus, 312.
—— *albogularis*, 312.
—— *altumi*, 24.
—— *dybowskii*, 561.
—— *elgonensis*, 312.
—— *erkeli*, 118.
—— *gariepensis*, 473.
—— *hildebrandti*, 24, 25.
—— *johnstoni*, 2, 24, 473.
—— *shellei*, 312, 464, 473.
—— *spilolamus*, 312.
—— *streptophorus*, 312.
—— *uluensis*, 312.
Fratereula arctica, 237.
Fregata aquila, 366.
Fregilupus varius, 441.
Fringilla cœlebs, 91.
Fringilla montifringilla, 222, 230.
—— *spodiogena*, 82, 91.
Fringillaria tahapisi, 23.
Fulica atra, 76, 344.
—— *leucoptera*, 205.
—— *leucopyga*, 204.
Fuligula cristata, 72.
—— *nyroca*, 72.
—— *rufina*, 549.
Furnarius rufus, 166, 181.
Gallirex cinereus, 76, 258, 535.
Gallinago æquatorialis, 26.
—— *aucklandica*, 290, 291, 294, 295.
—— *chathamica*, 295.
—— *cœlestis*, 72, 100, 234, 343.
—— *delicata*, 450.
—— *gallinago*, 522.
—— *gallinula*, 73, 100.
—— *huegeli*, 290, 291, 294, 295.
—— *major*, 343.
—— *megala*, 522.
—— *nigripennis*, 26.
—— *paraguana*, 207, 215.
—— *pusilla*, 290, 291, 294, 295.
—— *sthenura*, 72.
—— *stricklandi*, 107.
—— *tristrami*, 290, 294, 295.
Gallinula chloropus, 76, 474, 521.
—— *galeata*, 204.
Gallirex chlorochlamys, 7, 467.
—— *porphyreolophus*, 134.
Gallus bankiva, 241, 257.
—— *gallus*, 521.
Garrulax albogularis, 360, 424.
—— *pectoralis*, 424.
—— *waddelli*, 424.
Gauropicoides afflesi, 544.
Gecinurus chlorolophus, 484.
—— *puniceus*, 421.
Gennæus davisoni, 312.
—— *oatesi*, 312.
Geocichla citrina, 49.
—— *heinii*, 298.
—— *interpres*, 259, 538.

Geocichla iodura, 298.
 — *lunulata*, 298.
Geopelia striata, 411.
Geopsittacus occidentalis, 107.
Geositta cunicularia, 166, 181.
Geothlypis poliocephala ralphii, 563.
 — *velata*, 165.
Geranoaëtus melanoleucus, 194.
Gerygone aruensis, 304.
 — *flaveola*, 259, 304.
 — *keyensis*, 304.
 — *salvadorii*, 304.
 — *simplex*, 255, 259.
 — *sulphurea*, 304.
Glareola melanoptera, 313.
 — *pratincola*, 25, 474.
Glaucidium brodiaei, 484.
 — *capense*, 4.
 — *fischeri*, 441.
 — *malabaricum*, 433, 524, 526, 527.
 — *perlutum*, 4.
 — *radiatum*, 433, 524, 526, 527.
Glossopsittacus porphyrocephalus, 261.
Gnathositta icterotis, 402, 403.
Graucalus elegans, 29.
 — *guillemardi*, 254.
 — *macii*, 218.
 — *nigrifrons*, 29.
 — *pectoralis*, 18.
 — *rexpineti*, 218.
Grus antigone, 444.
 — *canadensis*, 444.
 — *cinerea*, 444.
 — *collaris*, 444.
 — *lilfordi*, 444, 445.
 — *mexicana*, 444.
 — *vipio*, 225.
Gubernatrix cristatella, 169.
Gubernetes yiperu, 485.
Guira piririgua, 191, 560.
Guiraca glaucocærulea, 168.
Guttera edouardi, 472.
Gymnoschizorhis leopoldi, 446.
Gypaëtus barbatus, 84, 307, 368.
Gyps fulvescens, 573.
 — *fulvus*, 96, 367, 573.

Gyps himalayensis, 573.
 — *indicus*, 67.
Habrura pectoralis, 178.
Hæmatopus ostralegus, 119.
 — *palliatu*s, 207.
Hæmatortyx sanguineiceps, 374, 376, 377.
Hæmophila rufescens pallida, 441.
Halcyon alfredi, 246.
 — *chelicutensis*, 6.
 — *chloris*, 241, 208, 417, 418, 533.
 — *concreta*, 544.
 — *coromanda*, 222, 417, 418.
 — *gularis*, 409, 417, 418, 520, 533.
 — *leucopygia*, 30.
 — *orientalis*, 6.
 — *pileata*, 544.
 — *sacra*, 30.
 — *semicærulea*, 6.
 — *smyrnensis*, 58.
 — *winchelli*, 246, 258.
 — (*Cyanalcyon*) *quadricolor*, 442.
Haliaëtus albicilla, 224, 232.
 — *fulviventer*, 368, 573.
 — *leucogaster*, 63, 258.
 — *leucorhynchus*, 335, 573.
 — *macei*, 573.
 — *vocifer*, 3, 464.
 — *vociferoides*, 108.
Haliastur indus, 64, 557.
 — *intermedius*, 244, 258, 407, 534.
Haliplana lunata, 133.
Hapaloderma narina, 5.
Haplopelia johnstoni, 24, 472.
Harelda glacialis, 126, 232.
Harpactes diardi, 544.
 — *dulitensis*, 317, 421.
 — *duvauceli*, 422, 544.
 — *erythrocephalus*, 484.
 — *kasumba*, 544.
 — *oreskios*, 317.
 — *orrhophæus*, 422.
 — *vidua*, 421, 422.
 — *whiteheadi*, 139, 544.
Helodromas ochropus, 74, 343.

Helotarsus ecaudatus, 464.
Hemichelidon cinereiceps, 541.
 — *ferruginea*, 541.
 — *sibirica*, 543.
Hemignathus lanaiensis, 315.
 — *lichtensteini*, 446.
 — *lucidus*, 446.
 — *obscurus*, 315.
 — *procerus*, 315.
Hemipus picatus, 543.
Hemixus canipennis, 218.
 — *connectens*, 543.
 — *tickelli*, 482.
Henicurus borneensis, 421, 542.
 — *schistaceus*, 483.
Hermotimia talautensis, 547.
Herodias internedia, 432.
Herpornis brunescens, 542.
Herpsilochmus longirostris, 123.
Heteropelma flavicapillum, 123.
Heterorhynchus affinis, 315.
 — *hanaapepe*, 315.
 — *lucidus*, 315.
 — *olivaceus*, 315.
 — *wilsoni*, 315.
Heterotetrax vigorsi, 445.
Hieracidea novæ-guineæ, 440.
 — *orientalis*, 440.
Hierococyx sparverioides, 222.
Himantopus brasiliensis, 207.
 — *candidus*, 475.
 — *melanopterus*, 475.
Himatione dolei, 121.
 — *freethi*, 133.
Hirundo arcticincta, 316.
 — *astigma*, 1.
 — *emini*, 1, 146, 316.
 — *erythrogastra*, 222, 316.
 — *gutturalis*, 316, 452.
 — *javanica*, 256, 259, 316, 516.
 — *puella*, 15, 469.
 — *rustica*, 15, 52, 81, 90, 316, 452.
 — *striolata*, 516.
 — *tahitica*, 316.
 — *tytleri*, 316.

- Homorus lophotes*, 184.
Hoplopterus crassirostris, 475.
 — *speciosus*, 475.
Houbara arabs, 119.
Huhua nipalensis, 530, 531.
 — *orientalis*, 531.
*Hydrochelidon leucop-
 ptera*, 27, 119, 476.
 — *nigra*, 345.
Hydrocichla frontalis,
 542.
 — *ruficapilla*, 542.
Hydrocorax hydrocorax,
 520.
*Hydrophasianus chirur-
 gus*, 74, 358.
Hydropsalis forcipata,
 485.
 — *furcifera*, 119, 188,
 215.
 — *segmentata*, 399.
Hyloterpe albiventris,
 511, 550.
 — *griseiceps*, 511.
 — *homeyeri*, 252, 259.
 — *hypoxantha*, 316.
 — *philippinensis*, 409,
 511, 550.
 — *whiteheadi*, 316.
Hyphantornis bertrandi,
 20.
 — *cabanisi*, 20.
 — *melanocephala*, 20.
 — *nigriceps*, 19.
 — *nyassæ*, 2, 20.
 — *velatus*, 20.
 — *xanthops*, 19.
Hypocheira funerea, 21.
 — *nigerrima*, 471.
 — *ultramarina*, 21.
Hypolais icterina, 229.
Hypotaenidia striata, 77,
 225, 257.
 — *torquata*, 243, 257.
Hypothymis azurea, 48,
 408, 506.
 — *occipitalis*, 255, 259.
Hypsipetes leucocephalus, 331.
Ianthia rufilata, 483.
Ianthœnas griseigularis,
 243.
Ibidorhynchus struthersi,
 367, 373.
Ibis abbotti, 314.
 — *æthiopicus*, 477.
 — *maerorhyncha*, 107
- Ibis melanocephalus*,
 224.
 — *religiosus*, 477.
Ictinaëtus malayensis,
 289.
 — *ovivorus*, 289.
Indicator emini, 146.
 — *indicator*, 8, 467.
 — *sparmanni*, 8.
 — *variegatus*, 8.
Inocotis comata, 119.
Iole everetti, 253.
 — *haynaldi*, 253, 257,
 259.
 — *philippensis*, 408,
 509.
Irena criniger, 543.
Ispidina natalensis, 6.
Ithaginis geoffroyi, 553.
Ixocinclia madagascariensis
rostrata, 314.
Ixulus clarki, 433, 481.
 — *humilis*, 433, 481.
Iyngipicus maculatus,
 520.
 — *ramsayi*, 249, 258.
Iynx indica, 369, 573.
 — *pectoralis*, 573.
 — *torquilla*, 58, 313,
 369.
Junco hyemalis, 293.
Jynx, *see* *Iynx*.
Kenopia striata, 543.
Ketupa ceylonensis, 61.
Lagonosticta dybowskii,
 561.
 — *niveiguttata*, 22.
 — *rhodoparia*, 22.
 — *somaliensis*, 564.
Lagopus albus, 122, 233.
 — *hemileucurus*, 122.
 — *hyperboreus*, 122.
 — *mutus*, 122.
 — *rupestris*, 310.
Lalage sp., 241.
 — *culminata*, 543.
 — *pacifica*, 31.
 — *terat*, 259.
 — *timoriensis*, 436.
Lamprocolius sycobius,
 19.
Lamprotornis mevesi,
 470.
 — *viridipectus*, 564.
Laniarius bertrandi, 2,
 15, 469.
 — *gularis*, 16.
- Laniarius hypopyrrhus*,
 434.
 — *poliocephalus*, 16.
 — *rubiginosus*, 15.
 — *sulphureipectus*, 16.
Lanius affinis, 434.
 — *algeriensis*, 89, 90.
 — *bogdanowi*, 385.
 — *bucephalus*, 220.
 — *cephalomelas*, 259.
 — *collaris*, 15.
 — *collurio*, 382.
 — *collyrio*, 220.
 — *cristatus*, 45.
 — *dealbatus*, 81, 83, 89.
 — *dichrourus*, 382,
 383, 384, 385.
 — *funereus*, 378, 379,
 380, 381, 384.
 — *fuscatus*, 219, 220.
 — *karelini*, 385.
 — *lucionensis*, 512.
 — *mollis*, 378, 379,
 380, 381, 382, 384.
 — *nasutus*, 512.
 — *nigriceps*, 45.
 — *raddei*, 384, 385.
 — *rufus*, 220, 313.
 — *schach*, 217, 219,
 220.
 — *senator*, 313.
 — *sphenocercus*, 220,
 336.
 — *tephronotus*, 512,
 550.
 — *tigrinus*, 259.
 — *validirostris*, 512,
 550.
Larus affinis, 301.
 — *argentatus*, 236, 299,
 300, 301.
 — —, var. *vegæ*,
 300.
 — *cachinnans*, 300.
 — *canus*, 236, 350.
 — *cirrhocephalus*, 211.
 — *dominicanus*, 210,
 301, 495, 497.
 — *fuscus*, 236, 301.
 — *glauco*, 236.
 — *maculipennis*, 211.
 — *marinus*, 236, 301.
 — *melanocephalus*,
 548.
 — *minutus*, 350.
 — *occidentalis*, 300,
 301.
 — *phæocephalus*, 27,
 476.
 — *ridibundus*, 345.

- Larus schistisagus*, 301.
 — *scoresbyi*, 494, 495, 497.
Leiothrix luteus, 331.
Lepidogrammus cumingi, 520.
Lepocestes porphyromelas, 544.
Leptasthenura ægithaloides, 182.
Leptoptilus argala, 70.
 — *crumenifer*, 477.
Leptosittaca branickii, 402, 403.
Leucophoyx candidissima, 432.
Lichenops perspicillatus, 177.
Ligurinus aurantiiventris, 90.
 — *chloris*, 90.
 — *siniacus*, 552.
Limnecorax niger, 25, 473.
Limnopardalus vigilantis, 445.
Limosa agrocephala, 340.
 — *hæmastica*, 449.
 — *lapponica*, 235.
 — *uropygialis*, 225.
Linota cannabina, 92.
 — *linaria*, 230.
Lioptila annectens, 481.
 — *castanoptera*, 481.
Lobiophasis bulweri, 544.
Lobivanellus albiceps, 26.
 — *indicus*, 72.
 — *senegalensis*, 26.
 — *senegalus*, 26, 475.
Lochmias nematura, 484-494.
Locustella fasciolata, 408.
 — *hondoensis*, 316.
 — *lanceolata*, 218.
 — *luscinioides*, 558.
Loddigesia mirabilis, 398.
Lomvia troile, 237.
Lophoætus occipitalis, 2.
Lophoceros melanoleucus, 6, 467.
Lophophanes dichroides, 292.
 — *dichrous*, 292.
 — *melanolophus*, 372.
Lophophorus impeyanus, 286.
Lophophorus impeyanus, var. *mantoni*, 129.
 — —, var. *obscura*, 129.
 — *lhuysi*, 107, 562.
 — *scateri*, 291.
Lophorhina minor, 107.
 — *respublica*, 443.
Lophura ignita, 310, 544.
 — *rufa*, 311.
 — *vieilloti*, 311.
Loria loria, 564.
Loriculus bonapartii, 248, 258.
 — *chrysonotus*, 415, 416.
 — *hartlaubi*, 415.
 — *mindorensis*, 415.
 — *philippensis*, 410, 521.
 — *philippinensis*, 415.
 — *regulus*, 415, 416, 534.
 — *siquijorensis*, 415.
 — *vernalis*, 484.
 — *worcesteri*, 415.
Lorius erythrothorax rubiensis, 127.
Loxia bifasciata, 452.
 — *curvirostra*, 452, 517, 551, 565.
 — — *minor*, 554.
 — — *pityopsittacus*, 565.
 — — *typica*, 565.
 — *himalayana*, 502, 517.
 — *leucoptera*, 554.
 — *luzoniensis*, 502, 516, 551.
Loxops wolstenholmei, 433.
Lyncornis macrotis, 519.
 — *mindanensis*, 519.
Machetes pugnax, 26, 342, 476.
Machetornis rixosa, 178.
Macholophus spilonotus, 479.
Macrocorax vegetus, 30.
 — *woodfordi*, 30.
Macronus kettlewelli, 253, 259.
 — *ptilosus*, 542.
Macronyx croceus, 23.
Macropsalis kalinowskii, 399.
 — *lyra*, 400.
 — *lyrura*, 399, 400.
Macropsalis segmentata, 399, 400.
Macropteryx comata, 246, 258, 409.
 — *klecho*, 37.
 — *mystacea*, 38.
Macropygia ruficeps, 544.
 — *tenuirostris*, 243, 257, 521.
Macrorhamphus scolopaceus, 297.
Majaqueus æquinoctialis, 498.
Malaconotus approximans, 434.
 — *blanchoti*, 434.
 — *gabonensis*, 434.
 — *poliocephalus*, 434.
Malacopteryx affinis, 542.
 — *albigulare*, 542.
 — *cinereum*, 542.
 — *magnum*, 542.
Manucodia comrii, 442, 443.
Marmoronetta marmorata, 453.
Mascarinus duboisii, 441.
Megalasma virens, 484.
Megaloprepia poliura septentrionalis, 127.
Megalurus palustris, 418, 419, 510.
 — *ruficeps*, 418, 419, 510.
Megapodius cumingi, 242, 257.
 — *wallacei*, 312.
Megascops asio, 125, 126.
 — *pinosus*, 441.
 — *ridgwayi*, 441.
Melanobucco torquatus, 8.
 — *zombæ*, 8, 467.
Melanocharis striativentris, 564.
Melanocorypha calandra, 92, 94.
Melanophoyx calceolata, 431.
Melanopitta sordida, 418, 419.
 — *steerii*, 418, 419.
Melierax gabar, 2.
 — *polyzonus*, 119.
Melittophagus albifrons, 5.
 — *meridionalis*, 5.
Mergus serrator, 233.
Merops apiaster, 4, 95, 313.

- Merops bicolor*, 409, 417, 519.
 — *bullockoides*, 5.
 — *cyanophrys*, 139.
 — *natalensis*, 4.
 — *nubicoides*, 4.
 — *philippinus*, 60, 417, 520.
 — *superciliosus*, 4.
 — *viridis*, 59.
Mesura alpestris, 139.
 — *hortulorum*, 335.
 — *papuensis*, 508, 509, 552.
 — *poliocephala*, 508.
 — *thomassoni*, 508, 509, 552.
Mesia argentauris, 482.
Mesophoxys intermedia, 432.
Metallura atrigularis, 309.
 — *baroni*, 309.
Metapteryx bifrons, 327.
Metopiana peposaca, 201.
Metopidius indicus, 74.
Metoponia pusilla, 373.
Microrhynchus sp., 241.
 — *cærulescens*, 484.
 — *erythrogenys*, 407.
 — *melanoleucus*, 223.
 — *sinensis*, 223, 335.
Micropternus phæoceps, 54.
Micropus melanoleucus, 318, 319.
 — *toulsoni*, 4.
Microstictus funebris, 409.
Microtarsus chalccephalus, 422.
 — *cinereiventris*, 422.
 — *fusci-flavescens*, 422.
 — *melanocephalus*, 421, 422, 543, 570.
 — *melanoleucus*, 319, 543, 570.
 — *nehrkorni*, 570.
 — *phæcephalus*, 422.
Miglyptes grammithorax, 544.
Milvago chimango, 196.
Milvulus tyrannus, 180.
Milvus ægyptius, 3.
 — *govinda*, 65, 557.
Mimus modulator, 162.
Mirafraga apiata, 23.
 — *assamica*, 53.
 — *fischeri*, 23, 472.
 — *philippinensis*, 518.
Mirafraga tigrina, 561.
Miro traversi, 523.
Mitrephanes aurantiventris, 391.
 — *olivaceus*, 391.
Molothrus badius, 172.
 — *bonariensis*, 162, 172.
 — *rufoaxillaris*, 172.
Molpastes bengalensis, 43.
Momotus momota, 123.
 — *subrufescens*, 123.
Monarcha brodiei, 29.
 — *castaneiventris*, 29.
Monticola gularis, 333.
 — *solitarius*, 333, 509.
Montifringilla adamsi, 373.
Morphno congener, 287, 288.
Motacilla alba, 52, 89, 230.
 — *borealis*, 52.
 — — *sundevalli*, 230.
 — *citreola*, 330.
 — *flava*, 230, 293, 345.
 — *longicauda*, 23, 472.
 — *melanope*, 52.
 — *ocularis*, 540.
 — *personata*, 52.
 — *raii*, 344.
 — *vidua*, 23.
 — (*Budytes*) *citreo-*
lides, 573.
Mullerornis agilis, 308.
 — *betsilei*, 308.
 — *rudis*, 308.
Munia atricapilla, 51.
 — *brunneiceps*, 257.
 — *jagori*, 251, 257, 258.
Muscicapa atricapilla, 230, 313.
 — *cærulescens*, 14.
 — *griseisticta*, 408.
 — *grisola*, 14, 230, 313.
 — *luzonensis*, 570.
Muscicapula hyperythra, 505, 506.
 — *luzoniensis*, 505.
 — *westermanni*, 506.
Myiadectes leucotis, 457.
Myiagra ferrocyanea, 29.
Myiarchus ferox, 180.
 — *flammulatus*, 314.
 — *magnirostris*, 314.
 — *yucatanensis*, 314.
Myiobius naevius, 179.
Myiophoneus borneensis, 542.
Myiotheretes rufiventris, 175.
Myristicivora bicolor, 257.
Myrmeciza hemimelana, 397, 398.
 — *spodiogastra*, 397.
Myrmecocichla nigra, 139.
Myrmotherula gutturalis, 396.
 — *longicauda*, 394, 395, 396.
 — *multostriata*, 394, 395, 396.
 — *sororia*, 396, 397.
 — *spodionota*, 397.
 — *surinamensis*, 394, 395, 396.
Myzomela lafargii, 29.
 — *pulcherrima*, 31.
Naclerus furcatus, 485-494.
Nectarinia deckeni, 452.
 — *johnstoni*, 121, 452, 453.
Neophema splendida, 260.
Neophron percnopterus, 82, 96.
Nestor productus, 549.
Nettapus coromandelianus, 71.
Nicator gularis, 16.
Nilaus capensis, 1, 18.
 — *nigritemporalis*, 1, 18.
Niltava grandis, 483.
Ninox affinis, 524, 525.
 — *burmanica*, 433, 524, 526.
 — *lugubris*, 417, 433, 524, 526.
 — *philippensis*, 245, 417, 534.
 — *reyi*, 245, 258.
 — *scutulata*, 433, 524, 526.
Nisaetus bonellii, 288.
 — *grandis*, 289.
 — *nipalensis*, 289.
 — *ovivorus*, 289.
Nothura maculosa, 214, 453.
Nucifraga caryocatactes, 136.
 — *hemispila*, 372.

- Nucifraga multipunctata*, 372.
Numenius arquata, 236.
 — *borealis*, 210.
 — *phæopus*, 235, 347.
 — *tahitiensis*, 447.
Numida sp., 473.
 — *coronata*, 535, 536, 537, 538, 569.
 — *ptilorhyncha*, 118.
 — *pucherani*, 473.
 — *reichenowi*, 536, 537, 538.
 — *verreauxi*, 473.
Nycticorax cucullatus, 107.
 — *cyancephalus*, 426, 427.
 — *griseus*, 27, 541.
 — *manillensis*, 541.
 — *minahassæ*, 560.
 — *nævus*, 426.
 — *nycticorax*, 426, 427, 541.
 — *obscurus*, 199, 427.
 — *tayazu-guira*, 427.
Nyctiornis amicta, 544.
 — *breweri*, 107.

Oceanites oceanicus, 495, 498.
Oceanodroma townsendi, 442.
Odontophorus consobrinus, 132.
 — *guttatus*, 132.
 — *spodiostethus*, 312.
Œdemia nigra, 233.
Œdienemus capensis, 25.
 — *crepitans*, 85, 99, 119.
Œna capensis, 118.
Œstrelata hypoleuca, 133.
 — *longirostris*, 316.
 — *phæopygia*, 447.
Opisthocomus cristatus, 138.
Orchilus albiventris, 389.
 — *auricularis*, 389.
Oreicola ferrea, 330.
Oreocincla iodura, 298.
Oreomyza flammea, 315.
 — *maculata*, 315.
 — *montana*, 315.
 — *newtoni*, 315.
Oreophilus ruficollis, 207.
Oreortyx pictus, 570, 571, 572.

Oreortyx pictus plumiferus, 570, 571, 572.
Oriolus albiloris, 504, 550.
 — *chinensis*, 250, 258, 407.
 — *hosii*, 421, 543.
 — *larvatus*, 19, 470.
 — *melanisticus*, 547.
 — *melanocephalus*, 46.
 — *notatus*, 19.
 — *samarensis*, 505, 550.
 — *steerii*, 250, 258.
 — *trailli*, 483.
 — *vulneratus*, 539.
 — *xanthonotus*, 543.
Orthnocichla whiteheadi, 421, 543.
Orthotomus derbianus, 408.
 — *ruficeps*, 253, 257, 259.
 — *sutorius*, 45.
Ortyx atriceps, 312.
 — *thoracicus*, 312.
Osmotreron axillaris, 242, 257, 410, 521.
 — *everetti*, 308.
 — *vernans*, 242, 257, 418.
Ossifraga gigantea, 497, 498.
Otis dybowskii, 107, 225.
 — *heuglini*, 107.
 — *houbara*, 99.
 — *nuba*, 108.
 — *tarda*, 82, 85, 99, 451.
 — *tetrax*, 80, 85, 99.
Otocompsa emeria, 44.
 — *flaviventris*, 482.
Otocorys alpestris, 231.
 — *longirostris*, 373.
 — *penicillata*, 140.
Otogyps calvus, 68.
Otomela karelini, 383.
Otus vulgaris, 223.

Pachycephala astrolabi, 29.
 — *meridionalis*, 303.
 — *orphea*, 436.
 — *philippinensis*, 409.
 — *teysmanni*, 303.
Pachyprora molitor, 15.
Pachyrhamphus polychropterus, 181.
Pæoptera kenricki, 434.
Pagodroma nivea, 495, 498.

Palæornis derbyanus, 129.
 — *eupatrius*, 61.
 — *fasciata*, 484.
 — *purpureus*, 61.
 — *salvadorii*, 129.
 — *torquatus*, 60.
Palmeria dolei, 121, 301, 446.
 — *mirabilis*, 121.
Palumbus arquatrix, 24, 472.
Pandion carolinensis, 363.
 — *haliaëtus*, 3, 368.
Paradisæa augustæ-victoriæ, 443.
 — *gulielmi*, 127.
 — *wilsoni*, 443.
Paradisornis rudolphi, 107.
Paradoxornis guttaticollis, 330.
Paroaria cucullata, 168.
Parotia lawesi, 107.
Parra africana, 25.
 — *capensis*, 474.
 — *indica*, 360.
 — *jacana*, 205.
Parula pitiayumi, 165.
Parus colletti, 567.
 — *dresseri*, 567.
 — *elegans*, 252, 259, 408, 511.
 — *hudsonicus*, 313.
 — *ungava*, 313.
 — *owstoni*, 547.
 — *pallidiventris*, 464, 469.
 — *palustris*, 229, 567.
 — *semilarvatus*, 408.
 — *varius*, 547.
Passer diffusus, 22.
 — *domesticus*, 52.
 — *italiæ*, 92.
 — *salicicola*, 92.
Pediceetes phasianellus campestris, 135.
Pelagodroma marina, 150, 212.
Pelargopsis amauroptera, 58.
 — *gigantea*, 245, 258, 533.
 — *gurial*, 57.
Pelecanoides urinatrix, 358.
Pelecanus sp., 71.
 — *crispus*, 348, 453.
 — *fuscus*, 366.

- Pelecanus manillensis*, 71, 336.
 — *onocrotalus*, 348.
 — *philippensis*, 336.
 — *rufescens*, 71.
Penelopides affinis, 416.
 — *basilana*, 416.
 — *manillæ*, 409, 416, 520.
 — *mindorensis*, 416.
 — *panini*, 416, 533.
 — *samarensis*, 416.
Pennula ecaudata, 446, 447.
Penthetria ardens, 21, 471.
 — *axillaris*, 471.
Perdix cinerea, 303, 575.
 — *charrela*, 577.
 — *hispaniensis*, 576.
 — *montana*, 303.
Pericrocotus sp., 305.
 — *brevirostris*, 331, 483.
 — *cantonensis*, 336.
 — *cinereus*, 336, 408, 505.
 — *elegans*, 221.
 — *flammeus*, 505.
 — *fraterculus*, 221.
 — *marhesse*, 259.
 — *peregrinus*, 46.
 — *solaris*, 483.
 — *speciosus*, 221.
Peristera geoffroyi, 486.
Pernis ptilonorhynchus, 65, 258, 503.
Petronia petronella, 22.
 — *stulta*, 92.
Petrophila erythrogastra, 483.
Phaboteron amethystina, 417.
 — *brevirostris*, 257.
 — *leucotis*, 410, 521.
Phacelodomus ruber, 183.
 — *striaticollis*, 183.
Phæornis lanaiensis, 315.
 — *myiadestina*, 315.
 — *obseura*, 315.
 — *palmeri*, 315.
Phaethornis berlepschi, 309.
Phalacrocorax africanus, 28.
 — *bicristatus*, 365.
 — *brasilianus*, 152, 197.
 — *carunculatus*, 358.
Phalacrocorax featherstoni, 359.
 — *graculus*, 232.
 — *griseigena*, 226.
 — *holboelli*, 226.
 — *pelagicus*, 226.
 — *penicillatus*, 152.
 — *pygmæus*, 69, 71, 107.
Phalaropus hyperboreus, 234.
Phasianus elegans, 553.
 — *insignis*, 107.
 — *principalis*, 107.
 — *rufus*, 311.
 — *semitorquatus*, 107.
 — *shawi*, 107.
 — *strauchi*, 107.
 — *vlangali*, 107.
Phedina brazzae, 316.
Phibalura flavirostris, 484, 547.
Philentoma pyrrhopterum, 543.
 — *velatum*, 543.
Philobela minor, 449, 450.
Phimosus infuscatus, 199.
Phlæocryptes melanops, 182.
Phœnicopterus ignipalliat, 199.
 — *roseus*, 93, 119, 130.
Pholidauges verreauxi, 19.
Phonygama purpureo-violacea, 443.
Phoyx manillensis, 431.
 — *purpurea*, 431.
Phyllergates cinereicollis, 510.
 — *coronatus*, 510.
Phyllopneuste coronata, 262.
 — *intermedia*, 265.
 — *sylvicultrix*, 262.
 — *viridanus*, 265.
Phyllopseustes borealis, 262, 263.
 — *xanthodryas*, 263.
 — *xanthodryas*, 262, 263.
Phylloscopus sp., 370.
 — *affinis*, 264.
 — *borealis*, 261, 262, 263, 264, 293, 408, 488, 507, 542, 555.
 — *dumeticola*, 267.
Phylloscopus horornis, 267.
 — *humi*, 265, 266, 267, 268.
 — *lugubris*, 265, 266.
 — *magnirostris*, 265, 266.
 — *mandelli*, 267.
 — *neglectus*, 266, 267.
 — *plumbeitarsus*, 265.
 — *proregulus*, 265, 267.
 — *pulcher*, 482.
 — *scindianus*, 264, 266, 267.
 — *subviridis*, 267.
 — *superciliosus*, 267, 482.
 — *tristis*, 264.
 — *trochilus*, 229, 266, 267.
 — *tytleri*, 265.
 — *viridanus*, 264, 265, 266.
 — *xanthodryas*, 261, 262, 263, 264, 540.
Phyllostrephus cerviniventris, 2, 10.
 — *fischeri*, 10.
 — *fulviventris*, 10.
Piaya cayana cabanisi, 123.
Pica mauritanica, 81, 88, 94.
 — *rustica*, 231, 367, 370, 371.
Picoides tridactylus, 232.
Picolaptes angustirostris, 184.
Picumnus chinensis, 332.
 — *salvini*, 117.
 — *undulatus*, 117.
Picus leuconotus, 452.
 — *major*, 452.
 — *numidicus*, 452.
Pinarochroa hypospodia, 121, 446.
Pionus lacerus, 546.
Pipra comata, 392, 393.
 — *coracina*, 392.
 — *europæa*, 567.
 — *leucocilla*, 392, 393.
 — *coracina*, 392, 393.
Pitangus bolivianus, 179.
Pitta arcuata, 544.
 — *atricapilla*, 256, 257, 259.
 — *baudi*, 544.
 — *brachyura*, 305.

- Pitta* *cærulea*, 305.
 — *celebensis*, 438.
 — *concinna*, 438.
 — *coronata*, 305.
 — *cucullata*, 305.
 — *cyanoptera*, 421, 544.
 — *erythrogastra*, 256, 259.
 — *granatina*, 544.
 — *inspeculata*, 547.
 — *irena*, 305.
 — *iris*, 305.
 — *kochi*, 107, 438.
 — *kocki*, 438.
 — *loriæ*, 438.
 — *megarhyncha*, 305.
 — *muelleri*, 241, 256, 257, 259.
 — *nepalensis*, 438.
 — *nympha*, 316.
 — *rubrinucha*, 438.
 — *rufiventris*, 305.
 — *schwaneri*, 544.
 — *sordida*, 241.
 — *steerii*, 438.
 — *ussheri*, 305.
Pityriasis *gymnocephala*, 543.
Platyercus *erythropeplus*, 139.
 — *occidentalis*, 308.
 — *zonarius*, 308.
Platylophus *coronatus*, 544.
Platysmurus *atterrimus*, 421, 544.
Platystira *peltata*, 14, 469.
Plectrophenax *nivalis*, 130, 579.
Pleiotropterus *gambensis*, 477.
Plegadis *falcinellus*, 477.
Ploceus *baya*, 49, 50.
 — *bengalensis*, 49, 50.
 — *manyar*, 50.
Plotus *anhinga*, 364, 365.
 — *levaillanti*, 28, 119.
Phoebyga *pusilla*, 482.
Podager *nacunda*, 119, 186, 215.
Podica *petersi*, 474.
Podiceps *calipareus*, 109, 110, 111, 112.
 — *juninensis*, 112.
 — *cristatus*, 337, 344.
 — *minor*, 478.
 — *rollandi*, 212.
Podiceps *taczanowskii*, 109, 110, 111, 112.
Podoces *biddulphi*, 438.
Pœcile *affinis*, 292.
 — *songara*, 292.
Pœcilodryas *hermani*, 548.
 — *hypoleuca*, 548.
 — *melanogenys*, 127.
Pœcilonetta *erythrorhyncha*, 28, 478.
Pœcephalus *fuscicapillus*, 9.
Pogonocichla *johnstoni*, 14.
Polioætus *humilis*, 573.
 — *ichthyaætus*, 63, 244, 258, 368, 534, 573.
 — *plumbeus*, 573.
Polioptila *dumicola*, 163.
Polyborus *cheriway*, 553.
 — *tharus*, 196.
Polyplectron *napoleonis*, 406.
Polyplectrus *schleiermacheri*, 107.
Polytelis *melanura*, 260.
Pomatorhinus *albigularis*, 480.
 — *borneensis*, 542.
 — *erythrogyens*, 480.
 — *gravivox*, 330.
 — *imberbis*, 480.
 — *maccllelandi dedekensi*, 562.
 — *ochraceiceps*, 480.
 — *swinhoei*, 218.
Poospiza *nigrorufa*, 169.
Porphyrio, sp., 474.
 — *cæruleus*, 131.
 — *poliocephalus*, 76, 131.
 — *smaragdonotus*, 473.
 — *veterum*, 131.
Porzana *bailloni*, 77, 444, 473.
 — *fusca*, 77.
 — *galapagoensis*, 445.
 — *intermedia*, 444.
 — *maruetta*, 77, 342, 444.
 — *parva*, 444.
 — *porzana*, 444.
 — *pusilla*, 336.
 — *pygmæa*, 336.
Porzanula *palmeri*, 133, 140.
Pratincola *caprata*, 505.
Pratincola *maura*, 48, 330.
 — *rubetra*, 117, 313.
 — *torquata*, 12.
Prion *desolatus*, 498.
 — *turtur*, 495, 498.
 — *vittatus*, 495, 498.
Prioniturus *flavicans*, 122, 248.
 — *luconensis*, 410.
 — *suluensis*, 258.
 — *verticalis*, 122, 248, 258.
Prionochilus *maculatus*, 544.
 — *thoracicus*, 544.
 — *xanthopygius*, 544.
Prionodura *newtoni*, 139.
Prionops *talacoma*, 470.
Procellaria sp., 225.
 — *cæruleus*, 568.
 — *cinereus*, 568.
 — *monorhis*, 226.
Procnias *tersa*, 486, 489.
Prodotiscus *insignis*, 8.
 — *zambesiæ*, 2, 8.
Progne *furcata*, 165.
 — *hesperia*, 316.
 — *purpurea*, 316.
 — *subis*, 37.
 — *tapera*, 166.
Propyrrhula *subhimalayensis*, 562.
Psaltiriparus *melanotis* *indus*, 559.
Pseudochloris *sharpei*, 386.
 — *uropygialis*, 386, 387.
Pseudogyps *bengalensis*, 63, 65, 67.
Pseudoleistes *virescens*, 173.
Pseudominla *castaneiceps*, 480.
Pseudopteryx *philippensis*, 503.
Psittacus *erithacus*, 119, 446.
 — *incertus*, 421.
Psittaculus *euteles*, 436.
 — *weberi*, 436.
Pternistes *humboldti*, 24.
 — *leucoscepus*, 312.
Pterocles *arenarius*, 82, 83, 85, 97, 98.
 — *coronatus*, 83, 97.
 — *exustus*, 358.
 — *gutturalis*, 24.

- Pterocles lichtensteini*, 118.
Pteroclorus alchata, 309.
 — *pyrenaeus*, 309.
 — *senegallus*, 118.
Pteruthius aeralatus, 481.
Ptilocolpa carola, 521.
 — *griseipectus*, 521.
Ptilopus banguyensis, 242, 257.
 — *corriei*, 139.
 — *fischeri*, 107.
 — *formosus*, 257.
 — *greyi*, 31.
 — *huttoni*, 457.
 — *melanocephalus*, 242.
 — *occipitalis*, 521.
Ptilopyga leucogrammica, 543.
Ptilorhis victoriæ, 428, 443.
Ptilotis flavirictus orientalis, 440.
 — *plumbea*, 564.
Puffinus chlororhynchus, 560.
 — *griseus*, 150, 212.
 — *kuhli*, 107.
 — *nativitatus*, 133.
Pycnonotus analis, 257.
 — *goiavier*, 257, 259, 408.
 — *layardi*, 463.
 — *simplex*, 543.
 — *taivanus*, 120, 337.
Pycnoramphusicteroides, 373.
Pygmornis chapadensis, 123.
Pygoscelis adeliæ, 499, 501.
 — *antarctica*, 500.
 — *tæniata*, 500, 501.
Pyrenestes coccineus, 20.
 — *minor*, 2, 20.
Pyrocephalus rubineus, 151, 180.
Pyromelana flammiceps, 21.
 — *nigrifrons*, 21.
 — *taha*, 471.
 — *xanthomelæna*, 21.
Pyrrhocorax alpinus, 372.
Pyrrhula cassini, 293.
 — *europæa*, 230.
Pyrrhulauda grisea, 53.
Pyrrhulorhynchus pyrrhuloides, 334.
Pytelia afra, 22, 471.
 — *melba*, 22.
 — *reichenowi*, 471.
Querquedula brasiliensis, 201.
 — *circia*, 342.
 — *crecca*, 72, 232.
 — *cyanoptera*, 200.
 — *flavirostris*, 200.
 — *hottentotta*, 28, 478.
 — *torquata*, 201.
 — *versicolor*, 200.
Quiscalus major, 360.
Rallina euryzonoides, 257, 445.
 — *mandarina*, 335.
 — *minahasa*, 445.
Rallus æquatorialis, 445.
 — *cærulescens*, 473.
 — *intermedius*, 444.
 — *rhytirhynchus*, 203.
 — *saturatus*, 445.
 — *semiplumbeus*, 445.
 — *virginianus*, 445.
Rectes bennetti, 148.
Recurvirostra avocetta, 349.
Rhabdornis mystacalis, 409.
Rhea americana, 214.
Rhectes ferrugineus clarus, 440.
Rhinomyias pectoralis, 543.
 — *ruficauda*, 255, 259.
Rhinopomastes cyanomelas, 6.
Rhinoptilus albofasciatus, 293.
 — *bisignatus*, 292, 293.
 — *chaleopterus*, 293.
 — *cinctus*, 292.
 — *gracilis*, 293.
 — *hartingi*, 292.
 — *seebohmii*, 292.
Rhipidura albicollis, 48, 483.
 — *albifrontata*, 48.
 — *büttikoferi*, 579.
 — *cyaniceps*, 506.
 — *flabellifera*, 100, 101, 102.
 — *fuliginosa*, 100, 101, 102.
 — *nigritorquis*, 255, 259.
 — *perlata*, 543.
Rhizothera longirostris, 546.
Rhodacanthis palmeri, 446, 447.
Rhopodytes sumatrana, 421.
Rhyacophilus solitarius, 209.
Rhynchæa capensis, 26, 73, 119, 475.
Rhynchops flavirostris, 119.
Rhynchortyx spodiostethus, 312.
Rhynchotus rufescens, 212, 453.
Rissa tridactyla, 236, 554.
Rostrhamus sociabilis, 195.
Rougetius aldabranus, 314.
Rubigula montis, 543.
 — *paroticalis*, 543.
 — *webberi*, 543.
Ruticilla frontalis, 330.
 — *fuliginosa*, 370.
 — *moussieri*, 83, 88.
 — *phœnicurus*, 88, 229.
 — *rufiventris*, 48.
 — *titys*, 88.
Salpornis emini, 146.
 — *salvadorii*, 14.
Saltator aurantirostris, 168.
Sarcidornis melanonotus, 72.
Sarcops calvus, 250, 257, 258, 517, 532.
 — *lowii*, 250.
Sauropatis chloris, 417.
Saxicola deserti, 83, 87.
 — *galtoni*, 12.
 — *leucura*, 80, 83, 87.
 — *melanura*, 574.
 — *mœsta*, 82, 83, 86.
 — *œnanthe*, 229.
 — *philothamna*, 86.
 — *pileata*, 468.
 — *stapazina*, 83, 87.
Scærorhynchus gularis, 480.
Schizorhis concolor, 7.
Schlegelia respublica, 443.
Schœnicola apicalis, 12.
Scelopax æquatorialis, 26.
 — *gallinago*, 522.

- Scelopax megala*, 522.
Scops bakkamœna, 433, 524, 527, 528.
 — *balli*, 433, 524, 526, 527.
 — *brookii*, 544.
 — *brucei*, 528.
 — *giu*, 119, 433, 524, 528, 529, 530.
 — *griseus*, 433, 527.
 — *lempiji*, 433, 524, 527, 528.
 — *lettia*, 61, 433, 524, 527, 528.
 — *longicornis*, 504, 552.
 — *malabaricus*, 433, 524, 527.
 — *malayanus*, 528, 529, 530.
 — *mantananensis*, 121, 139, 245.
 — *menadensis*, 245.
 — *minutus*, 524, 528, 529, 530.
 — *modestus*, 433, 524, 526, 527.
 — *nicobaricus*, 433, 524, 529.
 — *pennatus*, 433, 504, 524, 528, 529, 530, 552.
 — *plumipes*, 524, 527, 528.
 — *rufescens*, 258.
 — *rufipennis*, 524, 528.
 — *semitorques*, 524, 527, 528.
 — *sibutuensis*, 121, 244, 258.
 — *sunia*, 433, 524, 528, 529, 530.
Scopus umbretta, 477.
Scotopelia peli, 464, 465.
Seytalopus argentifrons, 314.
Sericornis nigrorufa, 564.
Serinus hortulanus, 91.
 — *icterus*, 22.
 — *imberbis*, 22.
 — *scotops*, 22.
Serpophaga nigricans, 178.
 — *suberistata*, 178.
Sibia picaoides, 481.
Sigmodus tricolor, 18, 470.
Siphia albicilla, 47.
 — *elegans*, 421.
Siphia philippinensis, 256, 259, 408, 507.
 — *strophata*, 483.
 — *turcosa*, 421.
 — *unicolor*, 543.
Siptornis taczanowskii, 393.
Sisopygis icterophrys, 177.
Sitagra ocularia, 19.
Sitta carolinensis mexicana, 441.
 — *frontalis*, 482.
 — *magna*, 482.
Sittiparus castaneiceps, 480.
Siurus noveboracensis, 293.
Siva sordida, 481.
Smilorhis whytii, 9.
Smithornis capensis, 14.
Somateria mollissima, 232.
Sorella emini, 145, 146.
Spathura addeæ, 398.
 — *annæ*, 398.
Spatula clypeata, 72, 342.
 — *platalea*, 201.
Speotyto cunicularia, 193.
Spermestes cucullata, 21.
 — *scutata*, 21.
Spermophila cærulescens, 168.
Spheniscus magellanicus, 212.
Sphenæacus caudatus, 523.
 — *fulvus*, 522, 523.
 — *punctatus*, 522, 523.
 — *rufescens*, 523.
Spilornis cheela, 63, 66.
 — *holospilus*, 244, 258, 407, 503, 534.
 — *raja*, 317.
Spinus capitalis, 387, 388.
 — *ictericus peruanus*, 388.
 — *olivaceus*, 387, 388.
 — *psaltria croceus*, 559.
 — *siemiradzkii*, 388.
Spizaëtus bellicosus, 464.
 — *limnaëtus*, 63.
 — *philippensis*, 503.
Sporæginthus amandava, 51.
Stachyris assimilis, 480.
 — *borneensis*, 542.
 — *leucotis*, 542.
 — *maculata*, 542.
 — *nigricollis*, 542.
Staphidia everetti, 317, 542.
Steganura paradisea, 21, 471.
 — *peruana*, 398.
Stephanophorus leucocephalus, 167.
Stercorarius antarcticus, 291, 495, 497.
 — *catarrhactes*, 437.
 — *crepidatus*, 236.
 — *maccormicki*, 291, 497.
Sterna albigena, 119.
 — *cantiaea*, 357.
 — *caspia*, 119.
 — *hirundinacea*, 210, 495.
 — *macrura*, 236.
 — *minuta*, 346.
 — *saundersi*, 119.
Stictonetta nævosa, 297.
Stoparola melanops, 47, 221, 334.
 — *meridionalis*, 304.
 — *nigritionalis*, 507, 551.
 — *panayensis*, 507.
 — *septentrionalis*, 304.
 — *sordida*, 507, 551.
 — *thalassinoides*, 507, 543.
Strepsilas interpres, 72, 234.
Strix candida, 222.
 — *capensis*, 223, 465.
 — *de-roepstorffi*, 433, 524, 525.
 — *flammea*, 4, 119, 433, 465, 524, 525.
 — *javanica*, 61, 525.
Sturnia malabarica, 46.
Sturnopastor contra, 42, 47, 62.
Sturnus unicolor, 94, 452.
 — *vulgaris*, 94, 452.
Sula abbotti, 314.
 — *bassana*, 366.
 — *cyanops*, 366.
 — *gossi*, 366.
 — *piscator*, 365, 366.
Surniculus velutinus, 247, 258, 410.

- Suthora bulomachus*, 338.
 — *fulvicauda*, 339.
 — *longicauda*, 338, 339.
 — *suffusa*, 338.
 — *webbiana*, 338, 339.
Suya superciliaris, 218, 483.
Sycalis luteola, 171.
 — *pelzelni*, 171.
 — *uropygialis*, 386.
Sycobrotus emini, 146.
 — *stictifrons*, 19.
Sylvia atricapilla, 88, 290.
 — *hortensis*, 13, 350.
 — *salicaria*, 13.
Sylviella micrura, 13.
 — *rufescens*, 13.
 — *whytii*, 2, 13.
Syma flavirostris, 449.
 — *torotoro*, 449.
Synallaxis flammulata, 393.
 — *hudsoni*, 182.
 — *striaticeps*, 182.
Synæcus plumbeus, 564.
Syrnium biddulphi, 524.
 — *indrani*, 524, 525.
 — *newarense*, 524, 525.
 — *nivicola*, 368, 526, 527.
 — *woodfordi*, 3.
Syrnhaptes tibetanus, 553.
Tachybaptus fluviatilis, 77, 478.
Tachycineta leucorrhœa, 166.
 — *thalassinus*, 316.
Tadorna cornuta, 232.
Tænioptera dominicana, 176.
 — *irupero*, 176.
 — *nengeta*, 175, 215.
Tanagra bonariensis, 168.
Tantalus leucocephalus, 68.
 — *loculator*, 199.
Tanygnathus burbidgii, 248, 257, 258.
 — *everettii*, 418.
 — *luconensis*, 248, 258, 410, 418.
 — *muelleri sangiren-*
sis, 560.
Telephonus anchietæ, 18, 434.
 — *minutus*, 434.
 — *senegalus*, 18.
Telespiza cantans, 133.
 — *flavissima*, 133.
Tephrodornis pondiceri-
anus, 45.
Terpsiphone affinis, 221, 543.
 — *floris*, 436.
 — *incii*, 221, 331.
 — *paradisi*, 47.
 — *perspicillata*, 15.
 — *princeps*, 221.
 — *sumbaensis*, 440.
Tesia cyaneiventris, 481.
Tetrao bonasia, 310.
 — *umbellus*, 310.
Tetraogallus henrici, 562.
 — *himalayensis*, 554.
Tetraophasis szechenyi, 554.
Tetrastes bonasia, 310.
 — *severtzovi*, 554.
Thalassidroma melania, 442.
Thalasseca antarctica, 497.
 — *glacialoides*, 495, 498.
Thamnotæa cinnamomei-
ventris, 11.
 — *subrufipennis*, 11.
Thamnophilus cærules-
cens, 185.
 — *ruficapillus*, 185.
Theristicus branickii, 404, 405.
 — *caudatus*, 404, 405.
 — *melanopsis*, 405.
Thriponax hargitti, 534.
 — *javensis*, 249, 258, 409, 421, 520, 544.
 — —, *var. suluensis*, 249.
Tinnunculus alaudarius, 67, 80.
 — *cenchrus*, 80, 368.
 — *cinnamominus*, 195.
Tockus melanoleucus, 6.
Totanus calidris, 235.
 — *canescens*, 337.
 — *flavipes*, 209.
 — *glareola*, 27, 74, 343, 476.
 — *guttiferus*, 337.
 — *haughtoni*, 337.
 — *hypoleucus*, 27.
 — *incanus*, 31.
Totanus melanoleucus, 209.
 — *ochropus*, 100.
 — *pugnax*, 26.
Trachelotis barrovii, 548.
Trachyphonus uropygia-
lis, 564.
Treron baramensis, 421, 544.
 — *delalandii*, 23, 472.
 — *formosæ*, 337.
 — *olax*, 421, 544.
Trichixus pyrrhopygus, 542.
Trichoglossus massena, 30.
 — *pusillus*, 261.
Tricholestes criniger, 421, 543.
Trichoparadisca gulielmi, 127.
Tringa alpina, 234, 343, 449.
 — *bairdi*, 209.
 — *minuta*, 235, 475.
 — *striata*, 235.
 — *subarquata*, 26, 476.
 — *subminuta*, 335.
 — *temminckii*, 235.
Tringoides hypoleucus, 27, 73, 235, 343, 374, 476.
Trochaloipteron ellioti
bonvaloti, 562.
 — *henrici*, 562.
Trochaloipterum cano-
rum, 330.
 — *elliotti*, 330.
 — *melanostigma*, 480.
Trochocercus albonota-
tus, 469.
 — *cyanomelas*, 15.
Troglodytes furvus, 163.
Trogon atricollis, 313.
 — *chrysomelas*, 313.
Trupialis defilippii, 152, 157, 174.
Turacus livingstonii, 7, 467.
Turdinulus exsul, 543.
Turdinus atrigularis, 540, 542.
 — *canicapillus*, 542.
 — *castaneus*, 304.
 — *kalulungæ*, 542.
Turdus aliciae, 293.
 — *auritus*, 330.
 — *dauma*, 298.
 — *flavipes*, 486.
 — *fuscater*, 162.

- Turdus gurneyi*, 9, 468.
 — *iliacus*, 228.
 — *leucomelas*, 161.
 — *libonyanus*, 9, 468.
 — *merula*, 86.
 — *milanjensis*, 9.
 — *musicus*, 86.
 — *pilaris*, 228.
 — *rufiventris*, 161.
 — *torquatus*, 228.
Turnix hottentotta, 473.
 — *lepurana*, 25.
 — *nana*, 425, 473.
 — *ocellata*, 521.
 — *taigoor*, 74, 75, 76.
 — *tanki*, 76.
Turtur capicola, 24.
 — *communis*, 309.
 — *dussumieri*, 241, 243, 257.
 — *humilis*, 411.
 — *risorius*, 55.
 — *saturatus*, 314.
 — *semitorquatus*, 24.
 — *senegalensis*, 82, 96.
 — *suratensis*, 55.
 — *turtur arenicola*, 309.
Turturæna sharpei, 308.
Tympanistria tympanistria, 47.
Tympanuchus americanus, 135.
Tyranniscus chrysops, 390.
 — *frontalis*, 390.
 — *gracilipes*, 390.
Tyranniscus improbus, 390.
Tyrannus melancholicus, 180.
 — *violentus*, 485.
Upupa africana, 6.
 — *epops*, 54, 95, 369.
Uria grylle, 237.
Urobrachya axillaris, 471.
Uroloncha everetti, 251, 259.
 — *malabarica*, 51.
 — *punctulata*, 51.
Urospezias sp., 30.
 — *etorques*, 30.
 — *sumbaensis*, 127.
Vanellus cayennensis, 152, 205.
 — *crassirostris*, 475.
 — *cristatus*, 99.
 — *inornatus*, 26.
 — *speciosus*, 475.
Vidua principalis, 21.
 — *verreauxi*, 21.
Viridonia sagittirostris, 315.
Vivia innominata, 332.
Xanthixus flavescens, 482.
Xanthoenus flavicollis, 431.
 — *gouldi*, 431.
 — *melas*, 431.
 — *nesophilus*, 431.
Xantholæma hæmacephala, 54.
Xanthopygia narcissina, 421.
Xenocichla fusciceps, 10, 468.
 — *milanjensis*, 2, 9.
 — *placida*, 10.
 — *tephrolæma*, 9, 10.
 — *xaveri*, 561.
Xylolepes validus, 544.
Yuhina diademata, 331.
Zanelostomus javanicus, 544.
Zapornia parva, 444.
Zenaida maculata, 202.
Zeocephus cinnamomeus, 255, 259.
 — *rufus*, 255.
 — *talautensis*, 547.
Zonogastris melba, 22.
Zonotrichia albicollis, 266.
 — *pileata*, 169.
Zosterops bassetti, 579.
 — *everetti*, 252, 259.
 — *griseiventer*, 29.
 — *metcalfei*, 29.
 — *meyeni*, 515.
 — *novæ-guinææ*, 29.
 — *rendovæ*, 30, 31.
 — *sanctæ-crucis*, 31.
 — *sarasinorum*, 560.
Zosterornis whiteheadi, 502, 510, 551.

INDEX OF CONTENTS.

1894.

- Adair, P., on *Asio accipitrinus* and *Falco tinnunculus* in the Vole-plague Districts, noticed, 552.
- Æpyornis, systematic position of, 141; observations on, noticed, 307.
- Africa, exhibition of some birds from, 434; 'Travel and Adventure in South-east,' 134; exhibition of specimens of *Trachelotis barrovii* from S.E., 548.
- Aithurus taylori*, description of, 548.
- Alaska, birds collected by the 'Albatross' in, noticed, 563.
- 'Albatross,' birds collected in Alaska by the, noticed, 563.
- Aldabra, new birds from, 314.
- Alectorides in the British Museum Catalogue of, noticed, 443.
- Allen, J. A., on birds from Chapada, Matto Grosso, Brazil, noticed, 122.
- America, distribution of the species of the genus *Picumnus* in South, 118; 'North American Birds,' noticed, 127.
- Andersen, K., letter pointing out an error in the synonymy of the two species of *Synna* in Dr. Sharpe's 'Catalogue of the Alcedinidæ,' 449; on *Ligurinus sinicus* in Denmark, noticed, 552.
- Andrews, C. W., on a new *Æpyornis*, noticed, 303.
- Angola, description of *Bradyornis sharpii* from, 435.
- Anous, revision of the genus, noticed, 567.
- Antaretica, remarks on the birds of, 494.
- Ant-Thrushes, Monograph of the, noticed, 305, 438.
- Aplin, O. V., on the Birds of Uruguay, with an introduction and notes by P. L. Selater, 149.
- 'Aquila,' no. 1, noticed, 553.
- Arajat, Philippines, birds of Mount, 406.
- Archæopteryx, manus of, 142; wing of, noticed, 563.
- Argentina, exhibition of three rare Parrots from, 546.
- Asia, Shrikes from Central, 378, 384; birds from Central, noticed, 439.
- Assumption Island, new birds from, 314.
- Audubon, J. J., life of, noticed, 556.
- Auk (Great), photographs of eggs of the, 297; sale of eggs of the, 327; newly-discovered eggs of the, 422; exhibition of eggs of the, 428, 429.
- Australia, description of the eggs of three species of Parrakeet from South, 259; a new Parrakeet from, noticed, 308; occurrence of the Corn-Crake in, noticed, 308; an extinct Apterygine Bird in, 327; new extinct gigantic Bird in, 328, 577; correct habitat of *Cacatua gymnopsis* in, 454.
- Backhouse, J., letter on hybrids between the Black Grouse and Capercaille, 448.
- Baldamus, A. K. E., obituary, 148.
- Banffshire, nesting of the Snow-Bunting in, 117, 136.
- Barboza du Bocage, J. V., description of *Bradyornis sharpii*, from Angola, 435.
- Barrett-Hamilton, G. E. H., on the occurrence in Ireland of the American Red-breasted Snipe, 297; letter on

- the occurrence of the Common Scoter and the long-tailed Duck in Ireland, 451.
- Bavaria, Marbled Duck in, 453.
- Bennett, G., obituary, 147.
- Berlepsch, H., and Stolzmann, J., description of a new species of Grebe from Central Peru, 109; descriptions de quelques Espèces nouvelles d'Oiseaux du Pérou central, 385.
- Bidwell, E., exhibition of a set of photographs of the Eggs of *Alca immennis*, 297; note on some newly-discovered eggs of the Great Auk, 422; exhibition of two unrecorded eggs of the Great Auk, 428.
- , and Pearson, H. J., on a birds'-nesting excursion to the North of Norway in 1893, 226.
- Bill, opening of the extremity of the, in the *Scelopacidae*, 449.
- Bismarckburg, birds of, 312.
- Bitterns, geographical Distribution of the Little, 425.
- Blaauw, F. E., comparative list of the birds of Holland and England, noticed, 123; letter on a probable migration to Western Europe of the Nutteracker, 136; letter on a double moult taking place in the Ducks of the genus *Tadorna*, 317.
- Blanford, W. T., on the scientific names of the Imperial and Spotted Eagles, and on the generic names of Bonelli's Eagle and the Black Eagle, 120, 283; on the occurrence of *Circus spilonotus* in Moulmein, 122; letter on Mr. Munn's paper "On the Birds of the Calcutta District," 320; notes on the Indian Owls, 433, 524; letter criticizing Lieut. Cordeaux's paper on the Birds of Dras and Suru, 572.
- Bohndorff, Hr., departure of, for Kilimanjaro, 454.
- Borneo, a new species of *Gerygone* from, noticed, 304; birds collected by A. H. Everett in Northern, 538; 'Bornean Notes,' 421, 538.
- Bower, H., journey across Tibet, noticed, 553.
- Bower-Birds, Monograph of the, noticed, 442.
- Brazil, birds from Chapada, 122.
- Brighton, *Hirundo gutturalis* at, 452.
- British Birds, distribution of, noticed, 564; Wyatt's 'British Birds,' noticed, 447; 'Lost British Birds,' noticed, 558; 'Handbook to the Birds of Great Britain,' noticed, 565.
- British Isles, notes on the genus *Lagopus* in, 122.
- British Museum, Report for 1892, 137; Catalogue of Birds in the, noticed, vol. xxii., 309; vol. xxiii., 443.
- British Ornithologists' Club, Bulletin, 113, 290, 424, 546; Chairman's Address, 113; adoption of amended rules of the, 546.
- British Ornithologists' Union, Anniversary Meeting, 455.
- Bronn's 'Thier-Reich,' Aves, noticed, 124.
- Brooks, W. E., a few observations on some species of *Phylloscopus*, 261.
- Bugotu Island, on birds from, 28.
- Buller, W. L., on a new species of Fern-bird (*Sphenæacus*) from the Snares Islands, 522.
- Bulletin of the British Ornithologists' Club, 113, 290, 424, 546.
- Burmah, the occurrence of *Circus spilonotus* in, 122; birds collected on Byingyi Mountain, 478.
- Bustard (Great) breeding in captivity, 451.
- Butler, A. W., distribution of Cross-bills in the Ohio Valley, noticed, 554.
- Butorides, distribution of the species of the genus, 295.
- Büttikofer, J., two new Birds from S. Celebes, noticed, 303; two new species of *Pachycephala* from S. Celebes, noticed, 303; two new *Stoparolæ* from Celebes, noticed, 304; a new *Gerygone* from Borneo, noticed, 304; two new birds from Java and Celebes, noticed, 304; two new species of *Gerygone*, noticed, 304; on birds from Celebes, Saleyer, and Flores, noticed, 435; news of, in Borneo, 454.
- Byingyi Mountain, birds collected on, 478.
- Cabanis, J., retirement from Editorship of 'Journal für Ornithologie,' 293.
- Calcutta, birds of, 39; remarks by Mr. Blanford on Mr. Munn's paper on the birds of, 320.
- Canary Islands, exhibition of Black-cap's Eggs from, 290.
- Cape Colony, on the vertebrates of the, 135.
- Cassel, ornithology at, 106.
- Cassowary, new species of, from the Island of Jobi, noticed, 560.
- Celebes, on birds from, noticed, 435; new birds from, noticed, 303, 304, 560.
- Ceram, a new species of *Ardeirallus* from, 118.

- Chajá, on the aquatic habits of the, 268.
- Chapada, birds from, 122.
- Chapman, A., notes on the genus *Lagopus* in the British Isles, Scandinavia, and Spitzbergen, 122.
- Chapman, A. O., a contribution towards the Ornithology of West Jutland, 339.
- Chapman, F. M., on the birds of Trinidad, noticed, 436.
- Cheshire, birds of West, noticed, 555.
- Chili, notes on the birds of, noticed, 559.
- China, on birds from, noticed, 129; notes on the Ornithology of, 329; the species of *Suthora* of, 338; on birds from Western, noticed, 561.
- Clarke, W. E., the persecution of the Great Skua, noticed, 437; abstract of letter from, on the birds of the mouth of the Rhone, 549; on some birds from the Island of Negros, Philippines, 531.
- Collett, R., on the occurrence of *Colymbus adamsi* in Norway, 269; contributions to the Norwegian Avifauna, noticed, 437; bird-life in Arctic Norway, noticed, 554.
- Colymbus adamsi* in Norway, 269.
- 'Coraciidæ, Monograph of the,' noticed, 304.
- Cordeaux, W. W., list of birds observed in Dras and Suru, 367; criticism of his paper on the birds observed in Dras and Suru by Mr. Blanford, 572.
- Cory, C. B., sale of the collection of birds of, 580.
- Coryndon, R., departure of, for Lake Tanganyika, 455.
- Costa Rica, birds of Rio Frio, 313.
- Coulon, L., obituary, 581.
- Cranes, new Monograph of the, 453.
- Crossbills, distribution of, in the Ohio Valley, noticed, 555.
- Crotophagidæ, breeding of the, noticed, 560.
- Crow of Somaliland, 327.
- Crowley, P., exhibition of a buff-coloured variety of the Whinchat, 117.
- Damma Island, the birds of, 579.
- Darmstadt, ornithology at, 106.
- Denbighshire, birds of, noticed, 555.
- Denmark, on birds observed at the light-stations of, 135; *Ligurinus sinicus* in, noticed, 552.
- Destruction of small birds, 579.
- Dichromatism in the genus *Megascops*, noticed, 125.
- Distant, W. L., letter on white quills in *Numida coronata* in a wild state, 569.
- Distribution of British Birds, noticed, 564.
- Dobie, W. H., the birds of West Cheshire, Denbighshire, and Flintshire, noticed, 555.
- Dras, birds observed in, 367, 572.
- Dresser, H. E., 'A Monograph of the Coraciidæ,' noticed, 304; remarks on some specimens of Central-Asiatic Shrikes, 384.
- Duck, Long-tailed, in Ireland, 451; Marbled, in Bavaria, 453.
- Dulit (Mount), additions to the Avifauna of, 545.
- Eagles, on the proper names of some Indian, 120, 283.
- Egg, the form of the Fowl's, 134; structure and variations of the Bird's, 325; on a collection arranged to illustrate the general characters of Birds' eggs, 351; origin of coloration of birds' eggs, 547, 568.
- Elliot, D. G., 'A Monograph of the Pittidæ,' noticed, 305, 438; life of Audubon, noticed, 556.
- Emin Pasha, last journey of, noticed, 445; obituary, 142.
- England, comparative list of the birds of Holland and, 123.
- Europe, occurrence of *Otocorys penicillata* in, 140.
- Evans, A. H., and Wilson, S. B., 'Aves Hawaienses,' noticed, 446.
- Everett, A. H., new species of birds from the Sulu Archipelago, 121; on a collection of birds sent from the Sulu Archipelago by, 238; letter on the new species *Spilornis raja*, 317; on birds collected in Northern Borneo by, 540.
- Evolution in the genus *Megascops*, 125.
- Extinct birds in Australia, 327, 328; a new species of extinct Gigantic Bird in Australia, 577; from Madagascar and the Mascarene Islands, noticed, 440; recently extinct birds, noticed, 440.
- Fatio and Studer's 'Catalogue des Oiseaux de la Suisse,' 435.
- Feathers, the barbs of, 312.
- Fibulæ complete in existing birds, 361.
- Finisterre Mountains, New Guinea, description of two new birds from, 548.
- Finsch, O., a new Rail from the Pacific Islands, noticed, 556.
- Flight of the Accipitres, mode of, noticed, 557.

Flintshire, birds of, noticed, 555.

Flores, birds from, noticed, 435.

Flower, W. H., on a collection arranged to illustrate the general characters of the Eggs of Birds, 351; on the arrangement of Museums, noticed, 556.

Foochow, on the birds of the vicinity of, 215.

Forbes, H. O., note on *Gallinago chat-hamica*, 295.

Formicarius, revision of the genus, noticed, 442.

Formosa, a new species of Bulbul from, 120.

Fowler, W. W., the Marsh-Warbler in Oxfordshire and Switzerland, noticed, 305.

Frankfort, ornithology at, 106.

Fulicariæ in the British Museum, Catalogue of, noticed, 443.

Gadow, H., Bronn's 'Thier-Reich,' Aves, noticed, 124.

—, and Newton, A., 'Dictionary of Birds,' part ii., noticed, 128.

Game Birds, Catalogue of the, in the British Museum, noticed, 309; letter on the review of the Catalogue of, 570.

Garlepp, G., news of, in Bolivia, 140.

Germany, list of the birds of, 130; remarks on the birds of, noticed, 306; Meeting of the German Ornithological Society, 457.

Godman, F. D., exhibition of a curiously coloured egg of the Emu, laid in Sussex, 299.

Goeldi, E. A., on the nesting of *Phibalura flavirostris* and *Lochmias nematura*, 484.

Grandidier, A., and Milne-Edwards, A., observations on *Aepyornis*, noticed, 307.

Grant, W. R. O., letter on the nesting of the Snow-Bunting in Banffshire, 117, 136; Catalogue of the Game Birds in the British Museum, noticed, 309; on the Crimson-headed Wood-Partridge (*Hæmatortyx sanguiniceps*), 374; on the Birds of the Philippine Islands: Part I. Mount Arayat, Central Luzon, 406; Part II. The Highlands of North Luzon, 5000 feet, 501; exhibition and description of a skin of *Garrulax waddelli*, 424; characters of new species of birds from North Luzon, collected by J. Whitehead, 549; on a new species of Guinea-fowl, 535; letter

on Mr. Ridgway's review of the 'Catalogue of the Game Birds in the British Museum,' 570.

Grebe, new species of, from Central Peru, 109.

Gregory, J. W., expedition to Mount Kenia, 121.

Guillemot, exhibition of a series of eggs of the, 117.

Guinea-fowl, on a new species of, 535.

Gurney, J. H., on the immigration of the Lapland Bunting, noticed, 125.

Hargitt, E., description of a new species of *Picumnus*, and remarks on the distribution of the South-American species of the genus, 117.

Harnsworth, A. C., note on the Polar Expedition of, 579.

Hartert, E., on the *Chrysotis canifrons* of Lawrence, 102; exhibition of the type of *Gallinago tristrami*, 290; note on the locality of *Lophophorus sclateri*, 291; letter calling attention to two ornithological works by Drs. Rey and Wickmann, 301; remarks on German Birds, noticed, 306; letter containing remarks on the mounting of type specimens in Museums, and on the generic name *Micropus*, 321; exhibition of some skins of *Eupsychortyx*, and description of *E. moequerysi*, 430; notes on the bird collections in the Kiel Museum, 549; on the mode of flight of the *Accipitres*, noticed, 557.

Hasbrouck, E. M., evolution and dichromatism in the genus *Megascops*, noticed, 125.

Hawaiian birds, noticed, 446.

Heart, size of, in birds, noticed, 562.

Heine, F., obituary of, 459.

Hérons, remarks on the classification of the, 430.

Hertfordshire, birds observed in, noticed, 126.

'Hirundinidæ, Monograph of the,' parts xv.-xvii., noticed, 315.

Hodgson, B. H., obituary, 580.

Holland, comparative list of the birds of England and, 123.

Hudson, W. H., 'Lost British Birds,' noticed, 558.

Humming-birds and Swifts, taxonomy of, 32.

Hutton, F. W., on *Dinornis queenslandiæ*, noticed, 306.

Hybrid Grouse, 135, 447, 448.

India, on birds from, noticed, 129; remarks on the Owls of the Indian

- Region, 433, 524; new birds from East, noticed, 440.
- Ireland, occurrence of the American Red-breasted Snipe in, 297; the Common Scoter and Long-tailed Duck in, 451.
- Italy, *Pelecanus crispus* in, 453.
- Jackson, F. G., note on the Polar Expedition of, 579.
- Jackson, F. J., exhibition and description of a new species of East-African Bush-Shrike, 117.
- Jamaica, exhibition of *Aithurus polytmus* and description of *A. taylori* from, 547.
- Japan, exhibition of some rare birds from, 547; Japanese birds in the Science College, Japan, 316.
- Jardine and Selby's 'Illustrations of Ornithology,' dates of the publication of, 326.
- Java, a new bird from, noticed, 304.
- Jhering, H. v., news of, 141.
- Jobi, a new Cassowary from the Island of, noticed, 560.
- Jouy, P. L., notes on birds from Central Mexico, noticed, 558; obituary, 581.
- Jutland, ornithology of West, 339.
- Kabruang, exhibition of co-types of birds from, 547.
- Kaiser, A., the Birds of Sinai, noticed, 307.
- Kalinowski, J., news of, in Peru, 141.
- Kalulong, additional list of birds from Mount, 421.
- Kenia (Mount), Dr. Gregory's expedition to, 121; the *Nectarinia* of, 452.
- Kiel, notes on the bird collections in the Museum at, 549.
- Kina Balu (Mount), further notes on the Avifauna of, 538.
- Kretschmar, Dr., departure of, for Lamu, 454.
- Landsell, H., on birds from Central Asia, noticed, 439.
- Laridæ, geographical distribution of certain, 300.
- Lataste, F., notes on Chilian birds, noticed, 559.
- Laysan, Avifauna of, noticed, part i. 132, part ii. 315.
- Leverkühn, P., on the breeding of the *Crotophagidæ*, noticed, 560.
- Lewis, H., on birds observed in Hertfordshire, noticed, 126.
- Lochinias nematura*, nesting of, 484.
- Luzon, birds of Mount Arajat in Central, 406; the birds of the highlands of North, 501; characters of new birds from North, 549.
- Lydekker, R., note on the aquatic habits of the Chajá (*Chauna chavaria*), 268.
- McLean, J. C., on the interbreeding of *Rhipidura fuliginosa* with *R. flabelifera*, 100.
- Madagascar, observations on *Æpyornis*, 307; extinct birds from, noticed, 440.
- Madarász, J. v., description of two new birds from the Finisterre Mountains in New Guinea, 548.
- Marsh-Warbler in Oxfordshire and Switzerland, noticed, 305.
- Mascarene Islands, extinct birds from the, noticed, 440.
- Mathew, M. A., birds of Somerset, noticed, 439.
- Matto Grosso, birds from, 122.
- Meade-Waldo, E. G., exhibition of Blackcap's Eggs from the Canary Islands, 290.
- Menzbier, M., on some new or little known Shrikes from Central Asia, 378.
- Mexico, a new *Odontophorus* from Southern, 132; five new birds from, noticed, 441; a new Storm-Petrel from Western, noticed, 442; notes on birds from Central, noticed, 558.
- Meyer, A. B., 'Abbildungen von Vogel-Skeletten,' noticed, 126; new birds from East India, noticed, 440.
- , and Wigglesworth, L. W., new birds from Celebes, noticed, 560.
- Micropus, remarks on the generic name, 318, 323, 422.
- Middendorff, A. v., obituary, 458.
- Milan, rare birds in the Museo Civico, 457.
- Millais, J. G., exhibition of specimens of *Trachelotis barrovii* from S.E. Africa, 548.
- Milne-Edwards, A., extinct birds from the Mascarene Islands and Madagascar, noticed, 440.
- , and Granddier, A., observations on *Æpyornis*, noticed, 307.
- , and Oustalet, E., recently extinct birds, noticed, 440.
- Miyakeshima, exhibition of a specimen of *Diomedea immutabilis* from, 548.
- Moulmein, the occurrence of *Circus spilonotus* in, 122.
- Mulu (Mount), birds from, 542.
- Munich, ornithology at, 106.

- Munn, P. W., on the birds of the Calcutta district, 39, 326.
- Museums, arrangement of, noticed, 556.
- Negros, birds from the Island of, 531.
- Nehrkorn, A., letter on *Microtarsus nehrkorni*, 569.
- Nehrling, H., 'North American Birds,' noticed, 127.
- Nelson, E. W., and Palmer, T. S., five new birds from Mexico, noticed, 441.
- Nesting of *Phibalura flavirostris* and *Lochmias nematura*, 484.
- Neumann, O., in East Africa, 454.
- New Guinea, new birds from, noticed, 563; descriptions of two new birds from Finisterre Mountains, 548.
- Newton, A., and Gadow, H., 'Dictionary of Birds,' pt. ii., noticed, 128.
- New Zealand, Snipes from the Islands of, 294.
- Nicaragua, birds of, 313.
- North, A. J., descriptions of the eggs of three species of South Australian Parrakeets, 259; on a new Australian Parrakeet, noticed, 308; on the occurrence of the Corn-Crake in New South Wales, noticed, 308.
- Norway, birds'-nesting excursion to the north of, 226; occurrence of *Colymbus adamsi* in, 269; contributions to the Avifauna of, noticed, 437; bird-life in Arctic, noticed, 554.
- 'Novitates Zoologicæ,' No. 1, noticed, 308.
- Nutteracker, migration of, to Western Europe, 136.
- Nyasaland, birds collected by A. Whyte in, 1, 461; map of, 462; exhibition of a skin of *Turnix nana* from, 424.
- Oates, E. W., exhibition of some skins of birds from the Shan States, and description of *Ixulus clarki*, 433; on some birds collected on Byingyi Mountain, Shan States, Burma, 478.
- Ohio Valley, distribution of Crossbills in the, noticed, 554.
- Oustalet, E., on birds from India, Tibet, and China, noticed, 129; note on *Drepanornis bruijnii*, noticed, 441; on new birds in the Paris Museum, noticed, 441; on a new Cassowary from the island of Jobi, noticed, 560; new birds from Ubangui, noticed, 560; on birds from the Sahara, noticed, 561; on birds from Turkestan, Tibet, and Western China, noticed, 561.
- Oustalet, E., and Milne-Edwards, A., recently extinct birds, noticed, 440.
- Owls of the Indian Region, remarks on the, 433, 524.
- Oxfordshire, Marsh-Warbler in, noticed, 305.
- Pacific Islands, a new Rail from the, noticed, 556.
- Palmer, T. S., and Nelson, E. W., five new birds from Mexico, noticed, 441.
- Paradise Birds, Monograph of the, noticed, 442.
- Paris, new birds in the Museum of, noticed, 441.
- Parrakeet, description of the eggs of three species of, 259.
- Parrot, C., on the size of the heart in Birds, noticed, 562.
- Parrots, exhibition of three rare Argentine, 546.
- Patterson, R., letter on the escape from captivity of two Lesser Kestrels, 451.
- Pavesi, P., ornithological calendar of Pavia, noticed, 130.
- Pavia, ornithological calendar of, noticed, 130.
- Pearson, H. J., exhibition of sets of eggs of certain Norwegian birds, 299; letter on a hybrid between the Willow Grouse and Capercaille, 447.
- , and Bidwell, E., on a birds'-nesting excursion to the North of Norway in 1893, 226.
- Penton, Capt., list of birds obtained near Suakim by, 118.
- Perkins, R. C. L., news of, in the Sandwich Islands, 328.
- Peru, a new species of Grebe from Central, 109; new species of birds from Central, 385.
- Phibalura flavirostris*, nesting of, 484.
- Philippines, birds of the, 406; distribution of genera and species of non-migratory land-birds in the, 411; the birds of the highlands of North Luzon, 406, 501; birds from the Island of Negros, 531.
- Pigott, T. D., exhibition of a series of Guillemots' eggs, 117; exhibition of specimens of shingly beach resembling the eggs of Terns, 299.
- 'Pitticæ, Monograph of the,' noticed, 305, 438.
- Pleske, Th., description of two new Tits in the St. Petersburg Museum, 291; notes on certain species of Tits, 292.
- Polar Expedition, note on the Jackson-Harmsworth, 579.
- Ptilonorhynchidæ, Monograph of the, noticed, 442.

- Pycraft, W. P., on the barbs of feathers, noticed, 312; letter on material required by him for studying the pterylography of the bird's wing, 324; on the wing of *Archæopteryx*, noticed, 563.
- Rail, a new species of, from the Pacific Islands, noticed, 556.
- Reichenow, A., list of German birds, noticed, 130; the birds of Bismarck-burg, noticed, 312.
- Rhoads, S. N., on *Parus hudsonicus* and its allies, noticed, 313.
- Rhone, birds of the mouth of the, 549.
- Richmond, C. W., on birds from Nicaragua and Costa Rica, and description of a new Trogon, noticed, 313.
- Rickett, C. B., on some birds collected in the vicinity of Foochow. With notes by H. H. Slater, 215.
- Ridgway, R., on two new Swifts, noticed, 132; on a new *Odontophorus*, noticed, 132; new birds from Aldabra and Assumption Island, noticed, 314; birds from Costa Rica, noticed, 314; remarks on the genus *Myiarchus*, noticed, 314; revision of the genus *Fornicarius*, noticed, 442; on a new Storm-Petrel from Western Mexico, noticed, 442; a new *Geothlypis* from Texas, noticed, 563; on birds collected by the 'Albatross' in Alaska, noticed, 563.
- Rio Frio, birds of, 313.
- Rollers, monograph of the, noticed, 304.
- Rothschild, W., note on *Himatione dolei*, 121; 'Avifauna of Laysan,' noticed, part i. 132, part ii. 315; exhibition of, and remarks upon, a series of Snipes from the New Zealand Islands, 294; note on *Palmeria dolei*, 301; 'Novitates Zoologicae,' No. 1, noticed, 308; exhibition of some eggs of *Ptilorhis victoriae*, 429; exhibition of some skins and living specimens of *Apteryx*, 429; exhibition of specimens of *Chæoptila angustipluma*, *Loxops wolstenholmei*, and *Drepanornis bruijnii*, 433; exhibition of co-types of several species of birds from the Talaut Islands, Kabruang, and Salibabu, 547; exhibition of some rare Japanese birds, 547; exhibition of *Aithurus polytmus* from Jamaica, and description of *A. taylori*, 547; exhibition of a specimen of *Diomedea immutabilis* from Miyakeshima, 548.
- Ryder, J. A., on the form of the Fowl's egg, noticed, 134.
- Sahara, on birds from the, noticed, 561.
- Saleyev, birds from, noticed, 435.
- Salibabu, exhibition of co-types of birds from, 547.
- Salvadori, T., new birds from New Guinea, noticed, 563; on birds from Somali-land, noticed, 564.
- Salvin, O., description of a new species of Humming-bird, 120.
- Sandwich Islands, news of Mr. Perkins in, 328; birds of the, noticed, 446.
- Santa Cruz, Solomon Islands, on birds from, 28.
- Sarawak, birds from Mount Mulu, 542.
- Saunders, H., description of *Stercorarius maccormicki*, 291; remarks on the geographical distribution of the Herring-Gull group of *Laridae*, 300; observations on the plumage of *Larus melanocephalus*, 548; letter on Spanish examples of *Perdix cinerea*, 575.
- Scandinavia, notes on the genus *Lagopus* in, 122.
- Schmidhoffen (*see* Tschusi zu Schmidhoffen).
- Schrenck, L. v., obituary, 459.
- Slater, P. L., ornithology at Munich, Stuttgart, Darmstadt, Frankfurt, and Cassel, 106; exhibition of, and remarks upon, a specimen of the "King" Parrot, 119; exhibition of specimens of the eggs of *Podager nacunda* and *Hydropsalis furcifera*, 119; notes on the Birds of Uruguay, 149; resolution passed on Dr. Cabanis's retirement from the Editorship of the 'Journal für Ornithologie,' 293; exhibition of a needle used by the natives of N. Queensland, made from the stem of a feather, 299; exhibition of and remarks on a skin of *Amaurolimnas concolor*, 299; exhibition of a specimen of *Coracias weigalli*, 299; exhibition of a skin of *Turnix nana* from Nyasaland, 424; remarks on the "Scomber scomber" principle in ornithological nomenclature, 428; remarks on the Birds of Antarctica, 494; exhibition of skins of three rare Parrots from Argentina, 546; exhibition of eggs of *Phibalura flavirostris*, 547.
- Scoter (Common), in Ireland, 451.
- Scott-Elliot, Mr., news of, in Central Africa, 455.
- Seeböhm, H., note on the cross-lines of migration in E. Siberia and N.W. America, 293; exhibition of, and remarks upon, a specimen of *Geocichla heinei*, 298; on the Chinese species

- of the genus *Suthora*, 338; description of *Merula thomassoni*, 552; on the distribution of British Birds, noticed, 564.
- Selous, F. C., 'Travel and Adventure in South-east Africa,' noticed, 134.
- Shan States, exhibition of some birds' skins from the, 433; birds collected on Byingyi Mountain, 478.
- Sharpe, R. B., list of the birds obtained by Capt. Penton near Suakin, 118; description of a new species of *Ardeirallus* from Ceram, 118; on the discovery, on Mount Kenia, by Dr. Gregory, of *Pinarochroa hypospodia* and *Nectarinia johnstoni*, 121; descriptions of four new species of birds from the Sulu Archipelago, 121; on a collection of birds sent by Mr. Alfred H. Everett from the Sulu Archipelago, 238; descriptions of three new species of *Rhinoptilus*, 292; remarks on the Geographical Distribution of the Herons of the genus *Butorides*, 295; Bornean Notes: No. II. 421 (viii. Additional list of Birds from Mt. Kalulong, 421; ix. On the generic name *Micropus*, 422); No. III. 538 (x. Further additions to the Avifauna of Mt. Kina Balu, 538; xi. Notes on Birds collected in Northern Borneo by Mr. A. H. Everett, 540; xii. On a collection of Birds from Mount Mulu, in Sarawak, 542; xiii. Additions to the Avifauna of Mt. Dulit, 545); on the geographical distribution of the Little Bitterns, 425; on the distribution of some species of the genus *Nycticorax*, 427; description of *Ardeirallus nesophilus*, 427; note on *Ardea purpurea*, 427; remarks on Dr. Reichenow's and Dr. Stejneger's classification of the Herons, and descriptions of the new genera, *Xanthocnus*, *Erythrophoyx*, *Melanophoyx*, *Mesophoyx*, *Leucophoyx*, and *Erythocnus*, 430-432; note on Fatio and Studer's 'Catalogue des Oiseaux de la Suisse,' 435; 'Monograph of the Paradiseidæ,' noticed, 442; 'Catalogue of the Fulicariæ and Aleatorides in the Collection of the British Museum,' noticed, 443; 'Handbook to the Birds of Great Britain,' vol. i., noticed, 565.
- , and Wyatt, C. W., 'Monograph of the Hirundinidæ,' parts xv.-xvii., noticed, 315.
- Shelley, G. E., second and third lists of Birds collected by Mr. Alexander Whyte, in Nyasaland, 1, 461; proposal of *Enneoctonus reichenovi* as an emended title for *Lanius affinis*, 434; remarks on *Malaconotus poliocephalus*, 434; creation of the genus *Bocagia* for the reception of *Telephonus anchietæ* and *T. minutus*, 434; exhibition of some specimens of African birds, and descriptions of *Pæoptera kenricki* and *Artamia comorensis*, 434.
- Sherborn, C. D., dates of issue of Jardine and Selby's 'Illustrations of Ornithology,' 326.
- Shrikes from Central Asia, 378, 384.
- Shufeldt, R. W., on the taxonomy of the Swifts and Humming-birds, 32; on a Hybrid Grouse, noticed, 135; on cases of complete fibulæ in existing birds, 361.
- Sinai, birds of, noticed, 307.
- Skeletons, illustrations of birds', noticed, 126.
- Skua (Great), persecution of the, noticed, 437.
- Slater, H. H., notes on the birds of the vicinity of Foochow, 215.
- Snares Islands, a new species of *Sphenæacus* from, 522.
- Snow-Bunting, nesting of the, in Banffshire, 117, 136.
- Solomon Islands, on birds from the, 28.
- Somali-land, the Black Crow of, 327; birds from, noticed, 564.
- Somerset, birds of, noticed, 439.
- Spain, letter on examples of *Perdix cinerea* from, 575.
- Spitzbergen, notes on the genus *Lagopus* in, 122.
- Steere, J. B., on the distribution of genera and species of non-migratory land-birds in the Philippines, 411.
- Stejneger, L., Japanese birds in the Science College, Japan, noticed, 316.
- Stolzmann, J., and Berlepsch, H., description of a new species of Grebe from Central Peru, 109; descriptions of quelques espèces nouvelles d'oiseaux du Pérou central, 385.
- Stone, W., revision of the genus *Anous*, noticed, 567.
- Stuhlmann, F., Emin Pasha's last journey, noticed, 445; in Bagamoyo, 454.
- Stuttgart, ornithology at, 106.
- Styan, F. W., exhibition of a new species of Bulbul from Formosa, 120; notes on the Ornithology of China, 329.
- Suakin, birds obtained by Capt. Penton near, 118.
- Sulu Archipelago, new species of birds

- from, 121; on a collection of birds from, 238; map of, 239.
- Suru, birds observed in, 367, 572.
- Suthora, the Chinese species of, 338.
- Swallows, monograph of the, 315.
- Swifts, two new species of, 132; taxonomy of Swifts and Humming-birds, 32.
- Switzerland, Marsh-Warbler in, noticed, 305.
- Talaut Islands, exhibition of co-types of birds from, 547.
- Taschenberg, O., abstract of letter from, on the origin of the coloration of bird's eggs, 547.
- Taxonomy of Swifts and Humming-birds, 32.
- Tegetmeier, W. B., exhibition of a variety of the Common Partridge, 303.
- Texas, a new *Geothlypis* from, noticed, 563.
- Tibet, on birds from, noticed, 129, 561; journey across, noticed, 553.
- Tinamous as food, 453.
- Titaghur, map of, 40.
- Trevor-Battye, A. B., departure of, for Kolguev Island, 454.
- Trimen, R., on the vertebrates of the Cape Colony, noticed, 135.
- Trinidad, birds of, noticed, 436.
- Tristram, H. B., on some birds from Bugotu, Solomon Islands, and Santa Cruz, 28; letter on the validity of the species *Coracias weigalli*, 320.
- Trowbridge, C. C., letter on the opening of the extremity of the bill in the *Scolopacidae*, 449.
- Tschusi zu Schmidhoffen, list of memoirs of, noticed, 568.
- Tunis, notes on some birds of, 78; map of, 79.
- Turkestan, on birds from, noticed, 561.
- Type specimens, on the mounting of, 321.
- Ubanguï, new birds from, noticed, 560.
- Uruguay, the birds of, 149; map of part of, 154.
- Vole-plague Districts, on Birds of Prey in the, noticed, 552.
- Whinchat, exhibition of a buff-coloured variety of, 117.
- Whitaker, J. I. S., notes on some Tunisian birds, 78.
- Whitehead, J., letter containing remarks on a passage in Dr. Sharpe's 'Bornean Notes,' 316; field-notes on the birds of Mount Arajat, Philippines, 406; the birds of the highlands of North Luzon, 501, 549.
- Whyte, A., birds collected in Nyasaland, 1, 461; return of, from Nyasaland, 455.
- Wickmann, H., on the origin of the coloration of birds' eggs, noticed, 568.
- Wiglesworth, L., letter on the generic name *Micropus*, 318.
- , and Meyer, A. B., new birds from Celebes, noticed, 560.
- Wilson, S. B., and Evans, A. H., 'Aves Hawaiianenses,' noticed, 446.
- Wing of *Archæopteryx*, noticed, 563.
- Winge, H., on birds observed at Danish Light-stations, noticed, 135.
- Winton, W. E. de, letter on hybrids between the Black Grouse and *Capercaillie*, 448.
- Wyatt, C. W., 'British Birds,' noticed, 447.
- , and Sharpe, R. B., 'Monograph of the *Hirundinidae*,' parts xv.-xvii., noticed, 315.

END OF VOL. VI.

GENERAL INDEX TO THE IBIS.

1889-1894.

- Abrolhos Islands, birds from, noticed 1890, 377.
- Abrornis olivacea, figured 1891, pl. ii.
- Accipiter granti, figured 1890, pl. xiv.
- Accipitres in the Australian Museum, noticed 1891, 136.
- Acquired characters, inheritance of, noticed 1892, 564.
- Adair, P., on Asio accipitrinus and Falco tinnunculus in the Vole-plague Districts, noticed 1894, 552.
- Adèle Island, bird-life of, 1892, 254.
- Aden, birds of, 1893, 57, 165; exhibition of birds from, 1893, 116; map of, 1893, pl. iv.; suggested as a place for an ornithological excursion, 1893, 265.
- Æpyornis, egg of, noticed 1892, 563; systematic position of, 1894, 141; observations on, noticed 1894, 307.
- Æthopyga latouchii, figured 1891, pl. i.
- Afghan Delimitation Commission, Zoology of, noticed 1890, 108.
- Afghanistan, birds of Southern, 1889, 145.
- Africa, birds from Kikombo, 1889, 224; notes on the birds of Central, 1889, 583; birds from South-western, noticed 1889, 245, 561; on different forms of Rollers from, 1890, 384; list of birds from South-western, noticed 1890, 112; new species from Central East, noticed 1891, 143; birds from East, noticed 1891, 453, 1893, 587; Emin Pasha's new birds from East, noticed 1891, 131; Jackson's birds from East, 1891, 117, 123, 233, 587, 1892, 152, 299, 534; description of some new species of birds from, 1893, 118; Junker's travels in, noticed 1893, 137, 138; on the birds of the Sulymah River, noticed 1893, 128; notes on birds observed in Eastern, 1893, 223; 'The Sportsman in South,' noticed 1893, 141; Spatula clypeata in South, 1893, 153; 'Travel and Adventure in South-east,' 1894, 134; exhibition of some birds from, 1894, 434; exhibition of specimens of Trachelotis barrovii from, 1894, 548.
- Agapornis lilianæ, figured 1894, pl. xii.
- Agassiz, A., report on the Museum of Comparative Zoology at Harvard College, noticed 1893, 451.
- Aitchison, J. E. T., Zoology of the Afghan Delimitation Commission, noticed 1890, 108.
- Aithurus taylori, description of, 1894, 548.
- Alaska, birds of, noticed 1889, 248; natural history of, noticed 1889, 133; birds collected by the 'Albatross' in, noticed 1894, 563.
- Albatross, on the Wandering, noticed 1892, 330; description of a new species of, noticed 1892, 330.
- 'Albatross,' birds of the voyage of the, noticed 1890, 257, 377; birds collected by the, on the coast of Western North America, noticed 1891, 290; on the bird-skeletons collected by the, noticed 1891, 133; birds collected in Alaska by the, noticed 1894, 563.
- Albino birds, notes on, noticed 1890, 118.
- Aldabra, new birds from, 1894, 314.
- Alectorides in the British Museum, Catalogue of, noticed 1894, 443.
- Aleutian Islands, birds from the, noticed 1892, 177.
- Alimentary Canal of the Martineta Tinamou, 1890, 61.
- Ἀλκυών, on the bird indicated by the word, 1893, 215.

- Allen, J. A., guide to the collection of birds in the American Museum, noticed 1889, 112; on the flight of birds, noticed 1889, 114; birds from Bolivia, noticed 1889, 559; birds from Quito, Ecuador, noticed 1889, 559; on the species of the genus *Cyclorhis*, noticed 1890, 109; new species of South-American birds, noticed 1890, 110; on the genus *Elainea*, noticed 1890, 247; description of a new *Mimocichla* from Dominica, noticed 1891, 612; further notes on Maximilian types of South-American birds, noticed 1892, 164; on a collection of birds from Chapada, Matto Grosso, Brazil, made by H. H. Smith, noticed 1892, 165, 1894, 122; on the North-American species of the genus *Colaptes*, noticed 1893, 124; a new *Gallinule* from Gough Island, noticed 1893, 125; notice of some Venezuelan birds, noticed 1893, 125.
- Allocotops calvus*, figured 1889, pl. xiii.
- Amazons, new birds from the Lower, noticed 1889, 127.
- America, new species of birds from Middle, noticed 1889, 126; new birds from Western North, noticed 1889, 382; additions to the avifauna of North, noticed 1889, 383; Check-list of the birds of North, noticed 1889, 562, 563; osteology of the *Anseres* of North, noticed 1889, 568; new birds from South, noticed 1889, 564, 1890, 110, 1891, 128; 'North American Birds,' noticed 1890, 377, 1894, 127; *Passer domesticus* in North, noticed 1890, 372; osteology of the *Passeres* of North, noticed 1890, 458; Richardson's birds from Central, 1891, 608; osteological notes on the *Kites* of North, 1891, 228; Fauna of North, noticed 1891, 134; seven new birds from North, noticed 1891, 447; Horned Larks of North, noticed 1891, 448; birds becoming extinct in North, 1891, 634; birds collected by the 'Albatross' on the coast of Western North, noticed 1891, 290; new species of birds from South, noticed 1891, 128; birds and eggs from Arctic, noticed 1892, 335; on the tertiary fossils of the birds of North, noticed 1892, 343; taxonomy of *Pygopodes* of North, noticed 1892, 462; 'Sporting Sketches in South,' noticed 1892, 453; the species of the genus *Colaptes* of North, 1893, 124; life-histories of the birds of North, noticed 1893, 126; geographical distribution in North, noticed 1893, 139; distribution of the species of the genus *Picumnus* in South, 1894, 118.
- American Museum, Guide to the Collection of Birds in the, noticed 1889, 112.
- Ammodramus*, a new species of, noticed 1892, 340.
- Anatomy of birds, noticed 1892, 167.
- Anchieta, J. d', birds collected in Angola by, noticed 1889, 569.
- Andaman Islands, edible-birds'-nest Swifts in the, 1892, 577.
- Andersen, K., letter pointing out an error in the synonymy of the two species of *Syma* in Dr. Sharpe's 'Catalogue of the Alcedinidæ,' 1894, 449; on *Ligurinus sinicus* in Denmark, noticed 1894, 552.
- 'Andes,' 'Travels amongst the Great,' noticed 1892, 464.
- Andorra, ornithology of the valley of, 1889, 520.
- Andrews, C. W., on a new *Æpyornis*, noticed 1894, 303.
- Angola, birds of, noticed 1889, 132, 569, 1890, 120, 1893, 576; description of *Bradyornis sharpii* from, 1894, 435.
- Anjouan Island, an apparently new species of Owl from, 1889, 104.
- 'Annals of Scottish Natural History,' noticed 1892, 348.
- Anous, revision of the genus, noticed 1894, 567.
- Antarctica, remarks on the birds of, 1894, 494.
- Antigua, birds of, 1893, 158.
- Antipodes Island, on a species of *Platycercus* from, noticed 1893, 133.
- Ant-Thrushes, monograph of the, noticed 1894, 305, 438.
- Apalis pulchra*, figured 1892, pl. iv.
- Aplin, O. V., 'The Birds of Oxfordshire,' noticed 1890, 110; note on his intended expedition to Uruguay, 1892, 350; departure for Uruguay of, 1892, 580; arrival in Uruguay of, 1893, 161; news of, 1893, 284; return from Uruguay of, 1893, 477; on the Birds of Uruguay, with an introduction and notes by P. L. Selater, 1894, 149.
- Apteryx, anatomy and development of, noticed 1891, 619, 1893, 143; exhibition of living specimens of, 1893, 573; notes on the genus, 1893, 573.
- Aptornis, on the genus, noticed 1893, 135.
- 'Aquila,' no. 1, noticed 1894, 553.
- Arajat, Philippines, birds of Mount, 1894, 406.

- Arboricola, the genus, 1892, 387; *A. ardens*, figured 1893, pl. xii.; *A. gineica*, figured 1892, pl. ix.
- Archæopteryx, the manus of, 1894, 142; the wing of, noticed 1894, 563.
- Arctic and Sub-Arctic Water-birds, osteology of, noticed 1889, 252, 393, 568; 1890, 260; 1891, 141, 287; 1892, 348.
- Ardeinæ, osteology of, noticed 1890, 120.
- Ardeino-Anserine Birds, an attempt to diagnose the suborders of, by the aid of osteological characters alone, 1889, 92.
- Arévalo y Baca, J., death of, 1890, 271.
- 'Argentine Ornithology,' vol. ii., noticed 1889, 391; letter on vol. ii. of, 1889, 397.
- Argentine Republic, birds of the, 1890, 424, 1891, 16; birds of Cordoba, noticed 1892, 178; the birds of the Estancia Esparilla, 1892, 193; extinct giant birds of, 1893, 40; bird-migration in, 1893, 467; notes on the birds of Estancia Sta. Elena, 1893, 483; exhibition of three rare Parrots from, 1894, 546.
- Argyllshire, *Cygnus bewickii* in, 1891, 294; 'A Vertebrate Fauna of,' noticed 1893, 136.
- Ariège, ornithology of the Valley of the Upper, 1889, 520.
- Arizona, a new *Psaltiriparus* from, noticed 1889, 129; nests and eggs from Southern, noticed 1889, 115; birds of, noticed 1891, 134, 1893, 147.
- Aruba, a new *Conurus* from, 1893, 249; birds of, 1893, 289, 293.
- Aruwhimi River, Jameson's collection of birds from, 1890, 156.
- Asia, Prejevalski's Journeys in Central, noticed, 1890, 256, 1891, 285; the Sea-Eagles of N.E., 1892, 349; Shrikes from Central, 1894, 378, 384; birds from Central, noticed 1894, 439.
- Assumption Island, new birds from, 1894, 314.
- Astrachan, on *Aquila rapax* from, noticed 1893, 459.
- Atlas Mountains, the avifauna of, noticed 1891, 621.
- Audubon, J. J., life of, noticed 1894, 556.
- Auk, morphology of the Auk tribe, noticed 1891, 285.
- Auk (Great), Photographs of Eggs of the, 1894, 297; sale of eggs of the, 1894, 327; newly-discovered eggs of the, 1894, 422; exhibition of two eggs of the, 1894, 428.
- Australia, list of birds of, noticed 1889, 123; nests and eggs of birds of, noticed 1892, 337, 1893, 142; bird-life of Adèle Island, 1892, 254; description of the eggs of three species of Parrakeet from South, 1894, 259; occurrence of the Corn-Crake in, noticed 1894, 308; a new Parrakeet from, noticed 1894, 308; an extinct Apterygine bird in, 1894, 327; new extinct gigantic bird in, 1894, 328, 577; correct habitat of *Cacatua gymnopsis* in, 1894, 454.
- 'Australian Museum,' 'Records of the,' noticed 1890, 454; Accipitres in the, noticed 1891, 136.
- Austro-Hungary, additions to the Ornis of, noticed 1889, 254; *Syrnhaptes paradoxus* in, noticed 1890, 461; the birds of, noticed 1893, 459.
- Backhouse, J., jun., 'Handbook of European Birds,' noticed 1890, 371; letter on hybrids between the Black Grouse and *Capercaillie*, 1894, 448.
- Bahamas, avifauna of the, noticed 1892, 331.
- Bailly's 'Ornithologie de la Savoie,' 1893, 475.
- Baker, E. C. S., description of a new species of Wren from North-east India, together with an account of its nest and eggs, 1892, 62.
- Baldamus, A. C. E., on Cuckoos and other parasitic birds, noticed 1892, 559; obituary, 1894, 148.
- Bambusicola, the genus, 1892, 387; *B. erythrophrys*, figured 1890, pl. iv.
- Banffshire, nesting of the Dotterel and Snow-bunting in, 1893, 569, 593; 1894, 117, 136.
- Baram District, Avifauna of the, 1893, 381.
- Barbados, *Puffinus auduboni* breeding in, 1889, 60; birds of, 1889, 477.
- Barbets, on some genera of Oriental, 1893, 234.
- Barboza du Bocage, J. V., papers on birds from St. Thomas, noticed 1889, 114, 1890, 248, 1892, 328; on the birds of Benguela, noticed 1893, 126; the birds of Dahomey, noticed 1893, 127; on the birds of Angola, noticed 1893, 576; description of *Bradyornis sharpii* from Angola, 1894, 435.
- Barnes, H. E., nesting in Western India, noticed 1892, 166; on the birds of Aden, 1893, 57, 165; exhibition of birds sent from Aden by, 1893, 116.
- Barrett-Hamilton, G. E. H., on the occurrence in Ireland of the American

- Red-breasted Snipe, 1894, 297; letter on the occurrence of the Common Scoter and the Long-tailed Duck in Ireland, 1894, 451.
- Barrows, W. B., the English Sparrow (*Passer domesticus*) in North America, noticed 1890, 372.
- Bartlett, E., 'Monograph of the Weaver-birds (Ploceidæ) and Finches (Fringillidæ),' noticed 1890, 248.
- Batrachostomus, a new species of, noticed 1893, 135.
- Bavaria, birds of, noticed 1892, 335; Marbled Duck in, 1894, 453.
- Baza, note on the Bornean, 1893, 553; *B. leucopsis*, figured 1890, pl. ii.
- Beckham, C. W., on the birds of South-western Texas, noticed 1889, 115.
- Beddard, F. E., contributions to the Anatomy of the Hoatzin (*Opisthocomus cristatus*), with particular reference to the structure of the wing in the young, 1889, 283; on the alimentary canal of the Martineta Tinamou (*Calodromus elegans*), 1890, 61; on *Photodilus badius*, with remarks on its systematic position, 1890, 293; Ornithological Notes: I. On the tongue of *Zosterops*, 1891, 510; II. On the convoluted trachea of *Manucordia comrii*, 1891, 512; 'Animal Coloration,' noticed 1892, 560; on the osteology, pterylosis, and muscular anatomy of the American Fin-foot (*Heliornis surinamensis*), 1893, 30.
- Belgium, ornithological observations made in, noticed 1891, 276.
- Bellenden-Ker Range, birds of the, 1890, 263.
- Belornis, new generic name proposed, 1893, 568.
- Bendire, C. E., on the nest and eggs of *Poliophtila californica*, noticed 1889, 115; on a collection of birds' nests and eggs from Southern Arizona, noticed 1889, 115; directions for collecting eggs and nests, noticed 1892, 329; 'Life-histories of North-American Birds,' noticed 1893, 126.
- Benguela, Bocage on birds from, noticed 1893, 126.
- Bennett, G., obituary, 1894, 147.
- Bennett, K. H., letter on *Erismatura australis*, 1891, 143.
- Berlepsch, H. v., on a new Humming-bird and remarks on a collection of birds from Bogota, noticed 1889, 116; descriptions of two new birds from Northern Peru, 1889, 181; letter on a Penguin found dead on the coast of Rio Grande do Sul, 1889, 258; new species of Neotropical Birds, noticed 1890, 111; on Garlepp's birds from Brazil and North Peru, noticed 1890, 111, 372; notes on Neotropical Birds, noticed 1890, 112; on the birds of Curaçao, noticed 1892, 447; on a remarkable new Finch from the Highlands of Bolivia, 1893, 207.
- Berlepsch, H. v., and Leverkühn, P., new species of South-American birds, noticed 1891, 128.
- Berlepsch, H. v., and Stolzmann, J., description of a new species of Grebe from Central Peru, 1894, 109; descriptions de quelques espèces nouvelles d'Oiseaux du Pérou central, 1894, 385.
- Berlepschia rikeri, figured 1889, pl. xi.
- 'Berwickshire,' 'Birds of,' noticed 1890, 117.
- Bidwell, E., exhibition of a fractured humerus of a Coot, 1893, 440; exhibition of a set of photographs of the eggs of *Alca impennis*, 1894, 297; note on some newly-discovered eggs of the Great Auk, 1894, 422; exhibition of two unrecorded eggs of the Great Auk, 1894, 428.
- Bidwell, E., and Pearson, H. J., on a birds'-nesting excursion to the north of Norway in 1893, 1894, 226.
- Bill, malformation of the, noticed 1892, 338; on a point in the mechanism of the bird's, 1893, 361, 563, 592, and 1894, 449.
- Billiton, birds of, noticed 1891, 623.
- 'Biologia Centrali-Americana,' Aves, noticed 1891, 276, 449; 1892, 168, 451, 565; 1893, 134, 267.
- Bismarckburg, birds of, 1894, 312.
- Bitterns, geographical distribution of the Little, 1894, 425.
- Blaauw, F. E., letter on a hermaphrodite Finch (*Fringilla calebs*), 1890, 464; *Syrhaptes paradoxus* in captivity, 1890, 465; letter on the occurrence of *Emberiza aureola* in Holland, 1891, 151; letter on the occurrence of *Ampelis garrulus* in Holland, 1892, 346; letter on the breeding-places of the Spoonbill in Holland, 1892, 468; letter on the occurrence of *Xema sabinii* in Holland, 1893, 150; letter on the immature plumage of *Ajaja rosea*, 1893, 465; comparative list of the birds of Holland and England, noticed 1894, 123; letter on a probable migration to Western Europe of the Nutteracker, 1894, 136; letter on a double moult taking place in the

- Ducks of the genus *Tadorna*, 1894, 317.
- Blagg, E. W. H., notes on the nesting of some Shetland birds, 1893, 350.
- Blakiston, T. W., death of, 1892, 190.
- Blanford, W. T., on some genera of Oriental Barbets, 1893, 234; on the scientific names of the Imperial and Spotted Eagles and on the generic names of Bonelli's Eagle and the Black Eagle, 1894, 120, 283; on the occurrence of *Circus spilonotus* in Moulmein, 1894, 122; letter on Mr. Munn's paper 'On the Birds of the Calcutta District,' 1894, 320; notes on the Indian Owls, 1894, 433, 524; letter criticising Lieut. Cordeaux's paper on the Birds of Dras and Suru, 1894, 572.
- Blasius, R., on the birds of Brunswick, noticed 1889, 116; on *Mergus ananarius*, noticed 1889, 117; on birds at the German Light-stations, noticed 1892, 329; on the birds of Bavaria, noticed 1892, 335.
- Blasius, W., the birds of Palawan, collected by Dr. and Mrs. Platen, noticed 1889, 117; birds from Great Sanghir, noticed 1889, 118; on Platen's birds from the Sooloo Islands, noticed 1891, 128, from Mindanao, noticed 1891, 129, and from Great Sanghir and Siao, noticed 1891, 274.
- Blasket Islands, visit to, 1891, 1.
- Bocage (*see* Barboza du Bocage).
- Bogota, a new Humming-bird and remarks on a collection of birds from, noticed 1889, 116.
- Bohndorff, Hr., departure of, for Kilimanjaro, 1894, 454.
- Bolivia, birds from, noticed 1889, 559; a new Finch from, 1893, 207.
- Bonaire, birds of, 1893, 289, 326.
- Bonaparte's 'Iconografia della Fauna Italica,' noticed 1889, 129.
- Bonin Islands, the birds of the, 1890, 95.
- Bonvalot, G., 'Journey through Tibet,' noticed 1892, 448.
- Booth, E. T., death of, 1890, 271.
- Borneo, ornithology of Northern, 1889, 63, 185, 265, 409, and 1890, 1, 133, 273; the occurrence of *Fuligula cristata* and *Lobipes hyperboreus* in, 1890, 263; list of birds of the Bornean Group of Islands, noticed 1890, 450; a new species of *Siphia* from, 1891, 45; some Pigeons from, noticed 1891, 618; birds from Mount Dulit, 1892, 322, 430; Bornean Notes, 1893, 421, 546, and 1894, 538; on a collection of birds from, 1893, 117; a new Owl from Mantanani, 1893, 117; new species of birds from Mount Dulit, 1893, 117; a new *Spilornis* from, 1893, 552, 569; note on the Baza of, 1893, 553; Mr. Everett's collections from N. Borneo and Sarawak, 1893, 559; exploration of Mount Kina Balu, noticed 1893, 590; a new species of *Gerygone* from, noticed 1894, 304; birds collected by A. H. Everett in Northern, 1894, 538.
- Borrer, W., 'Birds of Sussex,' noticed 1891, 445.
- Bosnia, *Otocorys penicillata* in, 1891, 295; the birds in the Museum of Sarajevo, noticed 1892, 338.
- Boucard, A., 'The Humming-bird,' 1892, 349.
- Bower, H., journey across Tibet, noticed, 1894, 553.
- Bower-Birds, Monograph of the, noticed 1892, 340, 1893, 461, 1894, 442; cubital coverts in the, noticed 1892, 463.
- Brandenburg, Avifauna of, noticed 1891, 138.
- Brazil, Garlepp's birds from, noticed 1890, 111, 372; H. H. Smith's birds from Chapada, noticed 1892, 165; 1894, 122; birds observed at Santarem, noticed 1892, 175.
- Brehm, A., proposed memorial to, 1892, 352.
- Brehm, C. L., proposed memorial to, 1892, 352.
- Brewster, W., new birds from Western North America and Mexico, noticed 1889, 382; seven new North-American birds, noticed 1891, 447.
- Brighton, *Hirundo gutturalis* at, 1894, 452.
- British Association Report on the Migration of Birds (9th), noticed 1889, 560.
- British Birds, Lilford's Coloured Figures of, noticed 1889, 386, 1891, 455, 1893, 268; at Rousdon, noticed 1889, 390; Saunders's Manual of, noticed 1889, 567, 1890, 259; British Fossil Birds, 1891, 381; local lists of, noticed 1891, 447; the Stafford Collection of, 1892, 577; Irby's Key List of, noticed 1892, 567; Wyatt's 'British Birds,' noticed 1894, 447; 'Lost British Birds,' noticed 1894, 558; distribution of, noticed 1894, 564; 'Handbook to the Birds of Great Britain,' noticed 1894, 565.
- British Guiana, Birds of Prey of, noticed 1893, 143.

- 'British India,' 'The Birds of,' 1889, 143.
- British Islands, occurrence of *Sylvia nisoria* in the, 1893, 122; notes on the genus *Lagopus* in, 1894, 122.
- British Museum, additions to the bird-collection of the, 1889, 138, 581; progress of the Catalogue of Birds in the, 1889, 404, 1890, 388, 1891, 629; 1893, 160; Catalogue of Birds in the, noticed, 1890, 378, 450, 456, 1891, 461, 1892, 458, 570, 572, 1893, 587, 1894, 309, 443; report for 1890, 1890, 445; for 1892, 1893, 153, 1894, 137; Catalogue of Fossil Birds, noticed, 1891, 456; the Bird-gallery in the, 1892, 185.
- British Ornithologists' Club, Inaugural Meeting of, 1893, 114; Bulletin of, 1893, 114, 248, 437, 567, 1894, 113, 290, 424, 546; Chairman's Address, 1894, 113; adoption of the amended rules of the, 1894, 546.
- British Ornithologists' Union, Anniversary Meeting, 1889, 406; 1890, 389; 1891, 477; 1892, 474; 1893, 472; 1894, 455.
- Bronn's 'Thier-Reich,' Aves, noticed 1892, 562; 1894, 124.
- Brooks, W. E., letter from, containing notes on W. W. Cordeaux's paper on the 'Birds of Cashmere,' and on the 5th volume of the 'Brit. Mus. Cat. Birds,' 1889, 475; a few remarks on Mr. Oates's 'Birds of British India,' 1892, 59; a few observations on some species of *Phylloscopus*, 1894, 261.
- Brotogerys *gustavi*, figured 1889, pl. vi.
- Brown, J. A. H. (*see* Harvie-Brown).
- Bruce, W. S., in the Antarctic Seas, 1893, 161.
- Brunner, birds of the district of Lake, noticed 1890, 261.
- Brunswick, the birds of, noticed 1889, 116.
- Brusina, S., the birds of Croatia, noticed 1889, 118; on the birds of Croatia and Slavonia, noticed 1891, 129.
- Bryden, H. A., 'Gun and Camera in South Africa,' noticed 1893, 577.
- Bucerotes, Catalogue of, in the British Museum, noticed 1892, 572.
- Buck, W. J., and Chapman, A., 'Wild Spain,' noticed 1893, 453.
- Buckley, T. E., letter on the Stock Dove (*Columba oenas*) extending its range, 1889, 401.
- Buckley, T. E., and Harvie-Brown, J. A., 'A Vertebrate Fauna of the Outer Hebrides,' noticed 1889, 564; 'A Vertebrate Fauna of the Orkney Islands,' noticed 1892, 166; 'A Vertebrate Fauna of Argyll and the Inner Hebrides,' noticed 1893, 136.
- Budapest International Ornithological Congress, Report, noticed 1893, 144.
- Bugotu Island, birds from, 1892, 293; 1894, 28.
- Buller, W. L., 'Birds of New Zealand,' noticed, parts vii.-xi., 1889, 243; list of S. W. Silver's collection of New Zealand Birds, noticed 1889, 244; transfer of the collection of, 1889, 403; letter from, on the loss by shipwreck of copies of the 'Birds of New Zealand,' 1889, 572; on the Wandering Albatross, noticed 1892, 330; description of a new species of Albatross, noticed 1892, 330; on rare birds of New Zealand, noticed 1892, 330; notes and observations on New Zealand Birds, noticed 1893, 127; further notes and observations on certain species of New Zealand birds, noticed 1893, 127; on the Kiwi from Stewart Island (*Apteryx maxima*), noticed 1893, 127; on a new species of Fernbird (*Sphenæacus*) from the Snares Islands, 1894, 522.
- Bulletin of the British Ornithologists' Club, 1894, 113, 290, 424, 546.
- Bund, J. W. W., 'List of the Birds of Worcestershire,' noticed 1892, 330.
- Burmah, birds from the Karencie Mountains, noticed 1890, 118; birds collected by Fea in, noticed 1890, 118; *Phasianus humiae* in, 1891, 152; the occurrence of *Circus spilonotus* in, 1894, 122; birds collected on Byingyi Mountain, 1894, 478.
- Burmeister, C. V., expedition to Patagonia, noticed 1890, 447; on the Fauna of Patagonia, noticed 1890, 448.
- Burmeister, H., letter concerning an error in the figure of *Chatocercus burmeisteri* in 'Argentine Ornithology,' 1890, 384; death of, 1892, 581.
- Bustard-hawking in Morocco, 1889, 405.
- Bustard (Great), occurrence in Wilts of the, noticed 1892, 574; breeding in captivity, 1894, 451.
- Bustard-Quail, nesting-habits of the, 1892, 467.
- Butler, A. W., 'Birds of Indiana,' noticed 1892, 331; the range and habits of the Carolina Parakeet,

- noticed 1892, 562; distribution of Crossbills in the Ohio Valley, noticed 1894, 554.
- Butler, E. A., letter on *Falco babylo-nicus*, 1889, 135; letter on the occurrence of *Ægialitis asiatica* at Great Yarmouth, 1890, 463; letter on the occurrence of *Tringa maculata* at Yarmouth, 1891, 149.
- Butorides, distribution of the species of the genus, 1894, 295.
- Büttikofer, J., birds from the Congo and S.W. Africa, noticed 1889, 245; on two probably new birds from Liberia, noticed 1889, 560; on a new Owl from Liberia, noticed 1889, 560; zoological researches in Liberia, 4th list of birds, noticed 1889, 561; on birds from S.W. Africa, noticed 1889, 561; on a new Gallinule, noticed 1890, 112; third list of birds from South-western Africa, noticed 1890, 112; Zoological Researches in Liberia, noticed 1891, 129; sketches of Liberia, noticed 1891, 613; on birds from Flores, Samao, and Timor, noticed 1892, 331; on the genus *Tatara*, noticed 1893, 128; on the specific value of Levaillant's Traquet Commandeur, noticed 1893, 128; on birds of the Sulymah River, W. Africa, noticed 1893, 128; on a Weaver-bird from Sumatra, noticed 1893, 129; on birds from the Island of Flores, Sumba, and Rotti, noticed 1893, 129; review of the genus *Rhipidura*, noticed 1893, 265; additional note on the genus *Rhipidura*, noticed 1893, 451; on *Merula javanica* and its allies, noticed 1893, 452; on two new birds from S. Celebes, noticed 1894, 303; two new species of *Pachycephala* from S. Celebes, noticed 1894, 303; two new *Stoparolæ* from Celebes, noticed 1894, 304; a new *Gerygone* from Borneo, noticed 1894, 304; two new birds from Java and Celebes, noticed 1894, 304; two new species of *Gerygone*, noticed 1894, 304; on birds from Celebes, Saleyer, and Flores, noticed 1894, 435; news of, in Borneo, 1894, 454.
- Buzzards, extraordinary flight of, 1891, 623.
- Byingyi Mountain, birds collected on, 1894, 478.
- Cabanis, J., retirement of, from the Berlin Museum, 1892, 581; and from Editorship of 'Journal für Ornithologie,' 1894, 293.
- Calabrian Avifauna, noticed 1891, 613.
- Calcutta, birds of, 1894, 39; remarks by Mr. Blanford on Mr. Munn's paper on the birds of, 1894, 320.
- California, a new *Ammodramus* from, noticed 1892, 340.
- Calodromas, the generic term, 1890, 265; the alimentary canal of *C. elegans*, 1890, 61.
- Caloosahatchie, Florida, on the birds of, noticed 1893, 148.
- Calyptomena hosii*, figured 1892, pl. x.
- Cambridge, the bird-collection in the University Museum at, 1893, 597.
- Cameron, E. S., letter on an extraordinary flight of Buzzards, 1891, 623.
- Campbell, C. W., a list of Birds collected in Corea, 1892, 230.
- Campbell-Orde, J., letter on misprints in Mr. Harvie-Brown's letter on *Cyanecula suecica* in the Monck Islands, 1889, 260; letter on the occurrence of *Phalaropus fulicarius* in the Outer Hebrides and of *Cygnus bewickii* in Argyllshire, 1891, 294; letter on the nesting of the Woodcock in the Outer Hebrides, 1891, 628; letter on the occurrence of *Carduelis elegans* and *Passer montanus* in North Uist, 1893, 592.
- Canary Islands, birds of the, 1889, 1, 503, 1891, 615; ornithological notes on the Island of Gran Canaria, 1889, 13; notes on the Island of Palma, 1890, 67; *Pelagodroma marina* in the, 1890, 389; further notes on the birds of the, 1890, 429; letter on the birds of the, 1892, 181; birds observed in the, 1893, 185; map of the, 1893, 187; exhibition of Blackcap's eggs from, 1894, 290.
- Canterbury (New Zealand), Avian remains from Timaru, noticed 1892, 564.
- Cape Colony, on the vertebrates of the, 1894, 135.
- Cape Horn, Scientific Mission to, noticed 1892, 173.
- Capellini, G., on an egg of *Æpiornis*, noticed 1892, 563.
- Capitonidæ, new genera and species of, 1889, 475.
- Caprimulgidæ, notes on the, 1892, 274.
- Caprimulgus eximius, figured 1892, pl. vi.
- Caracas, catalogue of the Birds in the Museum of, noticed 1889, 563.
- Carazzi, D., the birds of Spezia (2nd Appendix), noticed 1889, 561.
- Caribbean Islands, Townsend's collection of birds from, noticed 1889, 128.

- Carinatae, the fifth cubital remex in the wing of the, 1890, 77.
- Carolina Parakeet, range and habits of, noticed 1892, 562.
- Cassel, ornithology at, 1894, 106.
- Cassowary, new species of, from the Island of Jobi, noticed 1894, 560.
- Catharus, a new species of, from Ecuador, noticed 1889, 120.
- Caucasus, birds of the, noticed 1891, 136.
- 'Celebes,' 'A naturalist in North,' noticed 1890, 249; new birds from, noticed 1894, 303, 304, 1894, 435, 1894, 560.
- Celeus kerri, figured 1892, pl. iii.
- Ceram, a new species of Ardeirallus from, 1894, 118.
- Certhiola, note on the proper use of the name, 1893, 246.
- Ceylon, game birds of, noticed 1891, 135.
- Chajá, on the aquatic habits of the, 1894, 268.
- Chamaea, systematic position of, noticed 1890, 459; osteology of, noticed 1892, 171.
- Chamberlain, W., notes on non-volant birds, noticed 1889, 562.
- Chapada, H. H. Smith's birds from, noticed 1892, 165; 1894, 122.
- Chapman, A., 'Bird-life of the Borders,' noticed 1889, 245; notes on the genus Lagopus in the British Isles, Scandinavia, and Spitzbergen, 1894, 122.
- Chapman, A., and Buck, W. J., 'Wild Spain,' noticed 1893, 453.
- Chapman, A. C., a contribution towards the Ornithology of West Jutland, 1894, 339.
- Chapman, F. M., additions to the North-American Avifauna, noticed 1889, 383; a new species of Humming-bird, noticed 1890, 112; revision of the genus Xiphorhynchus, noticed, 1890, 113; note on Amazilia æneobrunnea, noticed 1890, 249; on birds from British Columbia, noticed 1891, 275; birds observed at Santarem, Brazil, noticed 1892, 175; the avifauna of the Bahamas, noticed 1892, 331; the colour-pattern of the tail-coverts in Colaptes auratus, noticed 1892, 332; on birds of Corpus Christi, Texas, noticed 1892, 332; on the Grakles of the subgenus Quiscalus, noticed 1892, 563; notes on birds observed near Trinidad, Cuba, with remarks on the origin of West Indian bird-life, noticed 1893, 452; on the birds of Trinidad, noticed 1894, 436.
- Chatham Islands, exhibition of the osteological remains of birds from the, 1893, 254; description of Æstrelata axillaris from the, 1893, 264; exhibition of the eggs of some birds of the, 1893, 445; list of the birds of the, 1893, 521; eggs of birds of the, figured 1893, pl. xiv.
- Check-list of North-American Birds, noticed 1889, 562, 563.
- Cheeseman, T. F., the birds of the Kermadec Islands, noticed 1892, 332.
- Cherrie, G. K., on new birds from Costa Rica, noticed 1892, 333; notes on Costa Rican Birds, noticed 1892, 334; on two new Flycatchers from Costa Rica, noticed 1893, 129.
- Cheshire, birds of West, noticed 1894, 555.
- Chili, exhibition of Phalaropus fulicarius from, 1893, 570; notes on the birds of, 1893, 595; 1894, 559.
- Chimarrornis bicolor, figured 1894, pl. xv.
- China, notes on the avifauna of, 1889, 443; a collection of birds from, noticed 1890, 453; on birds from South-eastern, 1891, 41; on the birds of, noticed 1892, 455, 1893, 135, 1894, 129, 329; birds of Swatow and Foochow, 1892, 400, 477; 'To the Snows of Tibet,' noticed 1892, 456; on birds from Western, noticed 1894, 561.
- Chionididae, the systematic position of the, noticed 1893, 589.
- Chloropsis kinabaluensis, figured 1889, pl. ix.
- Christy, M., 'The Birds of Essex,' noticed 1890, 448; local lists of British Birds, noticed 1891, 447.
- Chrysotis ochroptera and C. rothschildi, figured 1893, pl. ix.
- Churchill (Fort), on birds from, noticed 1891, 275.
- Cinnyris reichenowi, figured 1891, pl. xii.; C. whiteheadi, figured 1894, pl. xiv.
- Cis-Atlantean Subregion, Avifauna of the, noticed 1891, 621.
- Cissa jefferyi, figured 1889, pl. iv.
- Clarke, W. E., on the Ornithology of the Valleys of Andorra and the Upper Ariège, and other contributions to the avifauna of the Eastern Pyrenees, 1889, 520; the birds of Jan Mayen Island, noticed 1890, 449; on birds from Fort Churchill,

- Hudson's Bay, noticed 1891, 275; occurrence of *Grus leucogeranus* in the Hebrides, 1891, 635, 1892, 181; on the Rudimentary Hallux of the Kittiwake (*Rissa tridactyla*), 1892, 442; note on the *Rubecola tyleri* of Jameson, 1892, 558; letter on an error in his paper on the hallux of the Kittiwake, 1892, 575; report on the Great Skua in Shetland, noticed 1893, 129; the persecution of the Great Skua, noticed 1894, 437; on some birds from the Island of Negros, Philippines, 1894, 531; abstract of letter from, on the birds of the mouth of the Rhone, 1894, 549.
- 'Classification of Birds,' Seebohm's, noticed 1890, 379; Sharpe's, noticed 1891, 621; Dubois's, noticed 1892, 167; Shufeldt's Classification of the Pigeons, noticed 1892, 177.
- Claws of Birds, noticed 1889, 124; on the use of the terminal claw in young Birds, 1890, 128; Claws and Spurs of the bird's-hand, noticed 1893, 144.
- Cnemophilus macgregorii*, figured 1891, pl. x.
- Coburg Society for the protection of plants and animals, report, noticed 1889, 125.
- Cœreba*, on the proper use of the term, 1893, 246.
- Cœrebidæ*, the southern range of the, 1890, 131.
- Colaptes*, North-American species of the genus, noticed 1893, 124.
- Colius*, note on, 1892, 473.
- Collecting, directions for collecting birds, noticed 1892, 175; birds' eggs and nests, noticed 1892, 329.
- College of Surgeons, Catalogue of the Osteological Specimens of Birds in the Royal, noticed 1892, 461.
- Collett, R., new breeding birds in the Trondhjem District, 1890, 467; on the birds of Arctic Norway, noticed 1893, 130; letter on *Megalana versicolor* procured by Mr. Baun in Foochow, 1893, 277; on *Lanius excubitor* and its allied forms, noticed 1893, 454; on a collection of Birds from Tonga, New Hebrides, noticed 1893, 454; on the occurrence of *Colymbus adamsi* in Norway, 1894, 269; contributions to the Norwegian Avifauna, noticed 1894, 437; bird-life in Arctic Norway, noticed 1894, 554.
- Coloration of Birds, variations in, noticed 1890, 116, 374, 1891, 280; 1893, 582; 'Coloration of Animals,' noticed 1892, 560.
- Columbæ, a new genus of, 1890, 246; Catalogue of the, in the British Museum, noticed 1893, 587.
- Columbia, disappearance of *Spiza americana* from, noticed 1891, 288; birds from British, noticed 1891, 275.
- Colymbus adamsi*, in Norway, 1894, 269; figured 1894, pl. viii.
- Commander Islands, Natural History of the, noticed 1890, 382.
- Comoro Islands, birds of the, noticed 1889, 389.
- Compospiza garleppi*, figured 1893, pl. vi.
- Congo, birds from the, noticed 1889, 245; 1893, 586.
- Cook, J. M., letter on the 'Crocodile Bird' of the Nile, 1893, 275.
- Cooke, W. W., bird-migration in the Mississippi Valley, noticed 1889, 283.
- Coot, exhibition of a fractured humerus of a, 1893, 440.
- Coraciæ, Catalogue of the, in the British Museum, noticed 1892, 570, 572.
- 'Coraciidæ,' 'Monograph of the,' noticed 1894, 304.
- Coraciiformes*, an attempt to diagnose the subclass, 1890, 200.
- Cordeaux, J., letter on the occurrence of *Coracias indicus* in England, 1891, 147.
- Cordeaux, W. W., list of birds observed in Dras and Suru, 1894, 367, 572.
- Cordoba, birds of, noticed 1892, 178.
- Corea, birds collected in, 1892, 230.
- Cormorant, note on Pallas's, noticed 1890, 382; Cormorants using their wings when diving, 1891, 150.
- Cornwall, *Butorides virescens* in, 1890, 386.
- Corpus Christi, birds of, noticed 1892, 332.
- Corvidæ, osteological notes on the, noticed 1889, 131.
- Cory, O. B., the birds of the West Indies, noticed 1889, 384; 'Catalogue of West-Indian Birds,' noticed 1893, 266; sale of the collection of birds of, 1894, 580.
- Coryndon, R., departure of, for Lake Tanganyika, 1894, 455.
- Cossypha bartteloti*, figured 1890, pl. v.
- Costa Rica, a new *Fteroptochian* from, 1889, 262; notes on birds from, noticed 1890, 117, 1892, 334, 339; catalogue of the birds of, noticed

- 1890, 462; new birds from, noticed 1892, 333; a new Goatsucker from, noticed 1892, 339; two new Flycatchers from, noticed 1893, 129; birds of Rio Frio, 1894, 313.
- Coues, E., Handbook of Field and General Ornithology, noticed 1891, 130.
- Coulon, L., obituary, 1894, 581.
- Coverts (Cubital) in the Paradise- and Bower-birds, noticed 1892, 463.
- Cranes, new monograph of the, 1894, 453.
- Craspedophora duivenbodei, figured 1890, pl. xii.
- Croatia, birds of, noticed 1889, 118, 1891, 129.
- Crocodile and its bird, 1893, 470; Crocodile-bird of the Nile, 1893, 275.
- Crommelin (*see* Wickevoort-Crommelin).
- Crop of *Opisthocomus cristatus*, noticed 1892, 565.
- Crossbills in the Ohio Valley, noticed 1894, 554.
- Crotophagidae, breeding of the, noticed 1894, 560.
- Crow of Somali-land, 1891, 628; 1894, 327.
- Crowley, P., exhibition of the nest and egg of *Paradisaea raggiana* and the eggs of *Chlamydodera cerviniventris* and *C. maculata*, 1893, 248; exhibition of a buff-coloured variety of the Whinchat, 1894, 117.
- Cryptolopha montis and *C. schwaneri*, figured 1889, pl. viii.; *C. nigrorum*, figured 1891, pl. ii.
- Cuba, notes on birds observed at Trinidad, noticed 1893, 452.
- Cubital coverts of the *Euornithæ*, noticed 1891, 450; of the Paradise- and Bower-birds, noticed 1892, 463.
- Cuckoo, sitting of the, 1889, 404; the European, and its Indian allies, 1889, 355; hatching its own eggs, 1889, 219; notes on a tame, 1890, 466; on the parasitic habits of Cuckoos, noticed 1892, 559; and Swallow reared in the same nest, 1892, 524.
- Cumberland, Vertebrate Fauna of, noticed 1893, 138.
- Cumming, W. D., birds from Fao, 1891, 103.
- Curaçao, birds of, 1892, 447; 1893, 289, 311.
- Cyclorhis, on the species of the genus, noticed 1890, 109.
- Cyprus and its birds in 1888, 1889, 206; list of the birds of, 1889, 305.
- Dahomey, birds of, noticed 1893, 127.
- Dalglish, J. J., on nests and eggs from Paraguay, noticed 1890, 113; letter on the occurrence of *Oestrelata mollis* in Madeira, 1890, 386; notes on the Petrels of Madeira, noticed 1892, 564.
- Damma Island, the birds of, 1894, 579.
- Dammara, a new *Rhipidura* from the Island of, 1893, 251.
- Danube, ornithological excursion to the Lower, noticed 1893, 583.
- Darmstadt, ornithology at, 1894, 106.
- 'Darwinism,' by A. R. Wallace, noticed 1889, 570.
- Dassen Island, *Phalacrocorax neglectus* breeding on, 1893, 277.
- Davison, W. R., description of some new species of birds from the Eastern Coast of the Malayan Peninsula, 1892, 99; exhibition of types of some new species of birds described by, 1893, 118; obituary, 1893, 478.
- Death-Valley Expedition, Birds of the, noticed 1893, 580.
- Degan, E., paper on the Evolution of the Bird's Wing, 1893, 115.
- Delagoa Bay, *Hirundo rustica* at, 1892, 470.
- Delaware Valley Ornithological Club's 'Proceedings,' noticed 1892, 448.
- Denbighshire, birds of, noticed 1894, 555.
- Dendrocincla, review of the genus, noticed 1889, 126.
- Dendrocolaptidae, notes on some recently described species of, 1889, 350.
- Denmark, occurrence of Pallas's Sand-Grouse in, noticed 1890, 123; report on the birds of, noticed 1891, 292; on birds observed at the Light-stations of, 1892, 344, 1893, 150, 1894, 135; *Ligurinus sinicus* in, noticed 1894, 552.
- D'Entrecasteaux Islands, on birds from, 1889, 553; Loria's birds from, noticed 1892, 176.
- Deserta Grande, notes on birds obtained at, 1890, 438.
- Destruction of Small Birds, 1894, 579.
- De Vis, C. W., report on Birds from British New Guinea, 1891, 25.
- 'Devonshire,' Pidsley's 'Birds of,' noticed 1891, 460; D'Urban's 'Birds of,' noticed 1893, 131.
- Deyrolle, E., birds of France, noticed 1892, 449.
- Diablotin, note on the, noticed 1891, 454; in Dominica, noticed 1891, 131.

- Dicæum hypoleucum* and *D. sibuense*, figured 1894, pl. vii.; *D. monticola*, figured 1890, pl. viii.
- Dichromatism in the genus *Megascops*, noticed 1894, 125.
- Dippers, Palearctic White-breasted, 1892, 380.
- Disco, exhibition of an egg of *Tringa canutus* from, 1893, 263.
- Distant, W. L., 'Naturalist in the Transvaal,' noticed 1892, 449; letter on white quills in *Numida coronata* in a wild state, 1894, 569.
- Distribution of British Birds, noticed 1894, 564.
- Dixon, C., 'Our Rarer Birds,' noticed 1889, 246.
- Dobie, W. H., the birds of West Cheshire, Denbighshire, and Flintshire, noticed 1894, 555.
- Dodo, additional bones from Mauritius of the, noticed 1893, 584.
- Domestic Fowl, modern breeds of the, 1890, 304.
- Dotterel nesting in Banffshire, 1893, 569.
- Dras, birds observed in, 1894, 367, 572.
- Drepanoplectes jacksoni*, figured 1891, pl. v.
- Dresser, H. E., notes on birds collected by Dr. G. Radde in the Transcaspiian Region, 1889, 85, 1890, 342; letter concerning different forms of African Rollers, 1890, 384; notes on *Eurystomus orientalis*, 1891, 99; notes on some of the rarer Western Palearctic Birds, 1891, 360; on a collection of birds from Erzeroum, 1891, 364; remarks on *Lanius excubitor* and its allies, 1892, 374; remarks on *Lanius lahtora* and its allies, 1892, 288; remarks on the Palearctic White-breasted Dippers, 1892, 380; letter on omissions in the synonymy of the *Meropidae* in the 'Catalogue of Birds in the British Museum,' 1893, 151; on *Acredula caudata* and its allied forms, 1893, 240; exhibition and description of a new species of *Acredula* from Macedonia, 1893, 248; exhibition and description of *Cryptolopha xanthopygia* obtained from the Island of Palawan by Mr. J. Whitehead, 1893, 263; notes on the synonymy of some Palearctic Birds, 1893, 375; 'A Monograph of the *Coraciidae*,' noticed 1894, 304; remarks on some specimens of Central-Asiatic Shrikes, 1894, 384.
- Drummond-Hay, H. M., letter on the occurrence of *Turdus atrigularis* near Perth, 1889, 579.
- Dryodromas jacksoni*, figured 1892, pl. iv.
- Dry Tortugas, birds of the, noticed 1891, 286.
- Dublin Museum, Fossil Mammals, Birds, etc. in, noticed 1891, 456.
- Dubois, A report on ornithological observations made in Belgium, noticed 1891, 276; classification of birds, noticed 1894, 167.
- Duck, morphology of the Duck tribe, noticed 1891, 285; a hybrid, noticed 1893, 586; Long-tailed, in Ireland, 1894, 451; Marbled, in Bavaria, 1894, 453.
- Dulit (Mount), Hose's new birds from, 1892, 322; a collection of birds from, 1892, 430; new birds from, 1893, 117; avifauna of, 1893, 381; additions to the avifauna of, 1894, 545.
- D'Urban, W. S. M., and Mathew, M. A., 'Birds of Devon,' noticed 1893, 131.
- Dwight, J., junr., the Horned Larks of North America, noticed 1891, 448.
- Eagles, N.E. Asian Sea-, 1892, 349; on the generic names of some Indian, 1894, 120, 283.
- Eclectus, coloration of the young in the genus, 1890, 26.
- Economic Importance of Birds in India, noticed 1892, 571.
- Ecuador, a new species of *Catharus* from, noticed 1889, 120; birds from Quito, noticed 1889, 559; two new species of Humming-bird from, 1893, 449.
- Edible-birds'-nest Swifts in the Andaman Islands, 1892, 577.
- Eggs, of Indian birds, noticed 1890, 374, 1891, 132; in the Indian Museum, noticed 1891, 617; in the National Collection, 1891, 631; egg of *Æpyornis*, noticed 1892, 563; cause of variation in the shape of, 1893, 359; of *Paradisæa augusta-victoriae*, figured 1893, pl. xiii.; of Chatham Islands' birds, figured 1893, pl. xiv; the form of the Fowl's egg, 1894, 134; structure and variations of birds', 1894, 325; on a collection arranged to illustrate the general characters of birds', 1894, 351; origin of the coloration of birds', 1894, 547, 568; of birds of Uruguay, figured 1894, pl. v.

- Eglinton, W., and Nicolls, J. A., 'The Sportsman in South Africa,' noticed 1893, 141.
- Egypt, birds observed during a visit to, 1891, 473.
- Elachura haplonota and E. punctata, figured 1892, pl. ii.
- Elainea, the genus, noticed 1890, 247.
- Elliot, D. G., Inheritance of acquired characters, noticed 1892, 564; 'Monograph of the Pittidae,' new edition announced, 1892, 580, noticed 1893, 578, 1894, 305, 438; life of Audubon, noticed 1894, 556.
- Emberiza cioides, figured 1889, pl. x.
- Emin Pasha, news of, 1891, 476; new birds collected by, noticed 1891, 131; Relief Expedition, Story of Rear Column, noticed 1891, 280; last journey of, noticed 1894, 445; obituary, 1894, 142.
- Engano, Modigliani's birds from, noticed 1892, 460.
- England, comparative list of the birds of Holland and, 1894, 123.
- 'Equator,' 'Travels amongst the Great Andes of the,' noticed 1892, 464.
- Ernst, A., catalogue of the birds in the Caracas Museum, noticed 1889, 563.
- Erzeroom, birds from, 1891, 364.
- Espartilla, birds of the Estancia, 1892, 193.
- 'Essex,' 'The Birds of,' noticed 1890, 448.
- Etheridge, R., birds of Lord Howe Island, noticed 1890, 114.
- Eton College, letter on a collection of British Birds for, 1893, 593.
- Euornithæ, cubital coverts of the, noticed 1891, 450.
- Europe, 'Handbook of European Birds,' noticed 1890, 371; occurrence of Otocorys penicillata in, 1894, 140.
- Evans, A. H., 'Zoological Record,' Aves, noticed 1889, 255; letter on the criticism of the Zoological Record (Aves), 1889, 399; list of the Birds of the Melrose District, noticed 1893, 132; on the breeding of the Slavonian Grebe in Ross-shire, noticed 1893, 133.
- Evans, A. H., and Wilson, S. B., 'Aves Hawaienses,' noticed 1891, 291; 1892, 178, 575; 1893, 463; 1894, 446.
- Evans, W., on the periods occupied by birds in the Incubation of their Eggs, 1891, 52; birds of the Spey Valley, noticed 1891, 448; some further notes on the periods occupied by birds in the incubation of their eggs, 1892, 55.
- Everett, A. H., letter on the occurrence of Fuligula cristata and Lobipes hyperboreus in Borneo, 1890, 263; list of the birds of the Bornean group of Islands, noticed 1890, 450; letter recording the occurrence of several birds in Borneo, 1890, 465; description of an apparently new species of the genus Siphia from Borneo, 1891, 45; on a collection of birds sent from Borneo by, 1893, 117; list of birds collected on Mts. Penrisen and Poeh by, 1893, 550; birds from N. Borneo and Sarawak, 1893, 559; new species of birds from the Sulu Archipelago, 1894, 121; on a collection of birds sent from the Sulu Archipelago by, 1894, 238; letter on the new species Spilornis raja, 1894, 317; birds collected in Northern Borneo by, 1894, 540.
- Evolution in the genus Megascops, 1894, 125.
- Extinct Birds, birds becoming extinct in North America, 1891, 634; from Queensland, 1892, 530; Giant Birds of Argentina, 1893, 40; of New Zealand, noticed 1893, 133; from Mauritius, noticed 1893, 584; in Australia, 1894, 327, 328; from the Mascarene Islands and Madagascar, noticed 1894, 440; recently extinct birds, noticed 1894, 440; a new species of Gigantic Bird in Australia, 1894, 577.
- Fairbridge, W. B., letter on the occurrence of Spatula clypeata in South Africa, 1893, 153; letter on the breeding of Phalacrocorax neglectus on Dassen Island, 1893, 277.
- Falcons, the Northern, 1889, 143.
- Fao, Cumming's birds from, 1891, 103.
- Farallon Rail, observations on the, noticed 1891, 286.
- Farne Islands, protection of sea-birds on the, 1889, 141.
- Fatio, V., Catalogue of the Birds of Switzerland, noticed 1889, 394; 1894, 435.
- Fea, L., birds collected in Burmah by, noticed 1890, 118.
- Feathers, the barbs of, 1894, 312.
- Feilden, H. W., on the breeding of Puffinus auduboni in the Island of Barbados, 1889, 60; on the birds of Barbados, 1889, 477; on the Diablotin in Dominica, noticed 1891, 131.

- Ferguson, R. S., and Macpherson, H. A., 'A Vertebrate Fauna of Lake-land,' noticed 1893, 138.
- Fernando Noronha, birds from, noticed 1891, 140.
- Fibulæ complete in existing birds, 1894, 361.
- Fiji, on the species of the genus *Pachycephala* from, 1891, 93.
- 'Finches,' 'Monograph of the,' noticed, 1890, 248.
- Fin-foot, osteology, pterylosis, and muscular anatomy of the American, 1893, 30.
- Finisterre Mountains, New Guinea, description of two new birds from, 1894, 548.
- Finn, F., notes on Birds observed during a collecting expedition to Eastern Africa, 1893, 223.
- Finsch, O., Voyage of the 'Samoa,' noticed, 1889, 385; letter on the method of snaring Birds of Paradise in New Guinea, 1893, 463; a new Rail from the Pacific Islands, noticed 1894, 556.
- Fiore, C. de, on the Calabrian Avifauna, noticed 1891, 613.
- Fisher, A. K., 'Hawks and Owls of the United States,' noticed 1893, 578; the birds of the Death-Valley Expedition, noticed 1893, 580.
- Flight of Birds, noticed 1889, 114; of the Accipitres, noticed 1894, 557.
- Flintshire, birds of, noticed 1894, 555.
- Florence Museum, remarks on the mounted birds in the, 1893, 444.
- Flores, birds from, noticed 1892, 331; 1893, 129; 1894, 435.
- Florida, birds of Dry Tortugas, noticed 1891, 286; birds from, 1892, 293; birds of the Caloosahatchie region, noticed 1893, 148.
- Flower, W. H., on a collection arranged to illustrate the general characters of the eggs of birds, 1894, 351; on the arrangement of Museums, noticed 1894, 556.
- Flycatchers, three new species of, 1890, 205; new species of *Hyliota*, 1892, 373; two new species from Negros, 1891, 46; two new Costa Rican, noticed 1893, 129.
- Foochow, birds of, 1892, 400, 477, 1894, 215; letter on *Megalæma versicolor* in, 1893, 277.
- Foot of the young of *Lynx torquilla*, 1890, 411; development of the feet of *Cypselus melba*, 1890, 196.
- Forbes, H. O., attempts to reach the Owen Stanley Peak, noticed 1889, 118; on the disappearance of the Moa, noticed 1892, 334; on Avian remains from Timaru, noticed 1892, 564; return to England of, 1892, 580; additions to the Extinct Avifauna of New Zealand, noticed 1893, 133; on a species of *Platycercus* from Antipodes Island, noticed 1893, 133; note on *Cabalus modestus*, 1893, 253; exhibition and remarks on the osteological remains of birds from the Chatham Islands, and description of the new genera *Diaphorapteryx* and *Palæocorax*, 1893, 254; letter on the identity of *Cyanorhamphus erythrotis* and *C. hochstetteri*, 1893, 280; exhibition of the eggs of some rare Chatham Islands' birds, 1893, 445; exhibition of the adults and young of *Cabalus modestus*, 1893, 445; note discarding his new genus *Diaphorapteryx*, 1893, 450; exhibition of the tibia of *Palæocasuarius* and description of two new species, 1893, 450; a list of the birds inhabiting the Chatham Islands, 1893, 521; note on *Gallinago chathamica*, 1894, 295.
- Formicarius, revision of the genus, noticed 1894, 442.
- Formosa, two new species of birds from, 1893, 469; a new species of *Bulbul* from, 1894, 120.
- Fossil Birds, British, 1891, 381; in the Dublin Museum, noticed 1891, 456; in the British Museum, noticed 1891, 456; recent researches in, 1892, 474; from Oregon, noticed 1892, 574, 1893, 270; of North America, noticed 1892, 343.
- Foster, L. S., the published writings of G. N. Lawrence, noticed 1893, 455.
- Fowler, W. W., the Marsh-Warbler in Oxfordshire and Switzerland, noticed 1894, 305.
- France, rare birds of the North of, noticed, 1890, 122; Pallas's Sand-Grouse in the North of, noticed 1890, 250; Deyrolle's Birds of, noticed 1892, 449; distribution of birds in, 1893, 448.
- Francolins, new and rare, 1890, 345; some new African, 1891, 123; review of the genera *Francolinus* and *Pternistes*, 1892, 32; monograph of the, noticed 1892, 461.
- Francolinus, review of the genus, 1892, 32; *F. castaneicollis* figured, 1890, pl. xi.; *F. griseo-striatus* figured 1890, pl. x.; *F. gedgii*, figured

- 1892, pl. xiv.; *F. jacksoni*, figured, 1892, pl. i.
- Frankfort, ornithology at, 1894, 106.
- Fringilla palmarum*, figured, 1890, pl. iii.
- '*Fringillidae*,' 'Monograph of the,' noticed 1890, 248.
- Frivaldszky, J., '*Aves Hungaricæ*,' noticed 1892, 334.
- Fulicariæ in the British Museum, noticed 1894, 443.
- Funk Island, expedition to, noticed 1891, 281.
- Fürbringer, M., paper on *Stringops* and *Iynx*, noticed 1890, 373; systematic position of *Hesperornis*, noticed 1891, 449; Anatomy of Birds, noticed 1892, 167.
- Gadow, H., structure and systematic position of *Pedionomus torquatus*, noticed 1892, 451; crop and sternum of *Opisthocomus cristatus*, noticed 1892, 565; Bronn's '*Thier-Reich*,' *Aves*, noticed 1894, 124.
- Gadow, H., and Newton, A., '*Dictionary of Birds*,' noticed 1893, 584, 1894, 128.
- Gadow, H., and Newton, E., on additional bones of the Dodo and other extinct birds from Mauritius, noticed 1893, 584.
- Galapagos Islands, birds of the, noticed 1890, 257.
- Galeospar salvadorii*, figured 1891, pl. iv.
- Gallinacæ, morphology of the, noticed 1891, 618.
- Gallinago pusilla*, pull. figured 1893, pl. xv.
- Gallinula coccineipes*, figured 1892, pl. xii.
- Gallinule*, a new species of, noticed 1890, 112.
- Gambia, ornithology of the, 1892, 215.
- Game Birds, remarks on the classification of the, 1893, 265; exhibition of some rare species of, 1893, 441; '*Game-Birds and Shooting-Sketches*,' noticed 1892, 453; in the British Museum, noticed 1894, 309; letter on the review of the British Museum Catalogue of the, 1894, 570.
- Garlepp, G., birds from Brazil and North Peru, noticed 1890, 111, 372; news of, in Bolivia, 1894, 140.
- Gätke, H., letter on a new species of *Phylloscopus* (*P. newtoni*), 1889, 578; note on the collection of, 1890, 468, 1891, 299; the birds of Heligoland, noticed 1891, 613; list of birds recorded from Heligoland by, 1892, 1.
- '*Gazelle*,' birds collected during the voyage of the, noticed 1891, 289.
- Geographical Distribution, of Birds, 1891, 514; in North America, noticed 1893, 139; of British Birds, 1893, 262.
- Georgia, birds of South, noticed 1891, 463.
- German Ornithological Society, Meeting of, 1894, 457.
- Germany, Report of the Committee on Observing-Stations for German Birds, noticed 1889, 125; *Pratincola rubicola* in N.E., noticed 1893, 270; list of the birds of, 1894, 130; remarks on the birds of, noticed 1894, 306.
- Giglioli, H. H., birds of the voyage of the '*Vettor Pisani*,' noticed 1889, 130; ornithological investigation of Italy: Part I. *Avifauna Italica*, noticed 1890, 114; Part II. *Avifauna Locali*, noticed 1891, 131; Part III. *Notizie d'Indole generale*, noticed 1891, 614; letter on the *Limosa* described by Martorelli, 1891, 296.
- Giglioli, H. H., and Manzella, A., '*Iconografia dell'Avifauna Italica*,' fasc. xxviii.-l., noticed 1893, 455.
- Gilbert Islands, remarks on the birds of the, 1893, 210.
- Gizzard-stones of the Moa, noticed 1893, 134.
- Goatsucker, a new species of, noticed 1892, 339.
- Godman, F. D., notes on Mexican Birds, 1889, 232; gift to the National Bird-collection, 1890, 388; exhibition of a curiously-coloured egg of the Emu, laid in Sussex, 1894, 299.
- Godman, F. D., and Salvin, O., '*Biologia Centrali-Americana*,' noticed, 1891, 276, 449, 1892, 168, 451, 565, 1893, 134, 267; a new species of *Pheucticus*, 1891, 272; descriptions of five new species of birds discovered in Central America by W. B. Richardson, 1891, 608; on a collection of birds from Central Nicaragua, 1892, 324.
- Godwin-Austen Collection of Birds, 1893, 157.
- Goeldi, E. A., on the nesting of *Phibalura flavirostris* and *Lochmias nematura*, 1894, 484.
- Gomez, R., letter on *Fringilla teydea* nesting in Tenerife, 1889, 260.
- Goodchild, J. G., on crested Birds of Prey, noticed 1891, 450; on the cubital coverts of the *Euornithæ*, noticed 1891, 450.
- Goodwin, A. P., notes on the Paradise-birds of British New Guinea, 1890, 150.

- Goose, exhibition of a hybrid, 1893, 265.
- Gordon, W. J., 'Our Country's Birds,' noticed 1893, 456.
- Goss, N. S., birds of Kansas, noticed 1891, 451.
- Gough Islands, a new Gallinule from, noticed 1893, 125.
- Gould, J., 'Birds of New Guinea,' pt. xxv, noticed 1889, 247; Index to the works of, noticed 1893, 461.
- Goura, a new subspecies of, noticed 1893, 583.
- Graaf, H. W. de, letter on the occurrence of *Numenius tenuirostris* and *Glareola pratincola* in Holland, 1893, 150.
- Grakles of the subgenus *Quiscalus*, noticed 1892, 563.
- 'Grampus,' cruise of the, noticed 1891, 284; Explorations in Newfoundland and Labrador of the, noticed 1892, 453.
- Gran Canaria, ornithological notes from, 1889, 13.
- Grandidier, A., and Milne-Edwards, A., observations on *Æpyornis*, noticed 1894, 307.
- Grant, W. R. O., on the genus *Platalea*, with a description of a new species from New Guinea, 1889, 32; on the genus *Turnix*, 1889, 446; note on *Turnix beccarii*, 1890, 344; on some new and rare *Francolins*, 1890, 345; notes on some birds obtained at Madeira, Deserta Grande, and Porto Santo, 1890, 438; on some new *Francolins* and a new *Hornbill* discovered by Mr. F. J. Jackson in Eastern Africa, 1891, 123; letters on errors in his paper on the birds of Madeira, 1891, 469, 625; letter on the difference in plumage of the male and female *Turnix nigricollis*, 1892, 346; on the gallinaceous genera *Bambusicola* and *Arboricola*, 1892, 387; a short review of the *Francolins* belonging to the genera *Francolinus* and *Pternistes*, 1892, 32; 'Catalogue of the *Picariæ* in the British Museum' (*Buceros* and *Trogones*), noticed 1892, 572; description of a new species of *Caloperdix*, 1893, 117; diagnosis of *Caloperdix sumatrana*, 1893, 118; remarks on the classification of the Game Birds, and on the changes of the plumage in the *Tetraonidæ*, 1893, 265; exhibition of some skins of rare species of Game Birds, 1893, 441; on the breeding of the Snow-Bunting and the Dotterel in Banffshire, 1893, 569, 1894, 117, 136; 'Catalogue of the Game Birds in the British Museum,' noticed 1894, 309; on the Crimson-headed Wood-Partridge (*Hæmatortyx sanguineiceps*), 1894, 374; on the Birds of the Philippine Islands: Part I. Mount Arajat, Central Luzon, 1894, 406; Part II. The Highlands of North Luzon, 5000 feet, 1894, 501; exhibition and description of a skin of *Garrulax waddelli*, 1894, 424; on a new species of Guinea-fowl, 1894, 535; characters of new species of birds from North Luzon, collected by J. Whitehead, 1894, 549; letter on Mr. Ridgway's review of the 'Catalogue of Game Birds in the British Museum,' 1894, 570.
- Great Bustards in the Zoological Gardens, 1893, 476.
- Grebe, breeding in India of the Great Crested, 1892, 351; breeding in Ross-shire of the Slavonian, noticed 1893, 133.
- Greenland, birds of, noticed 1892, 169; exhibition of an egg of *Tringa canutus* from Disco, 1893, 263; the birds of West, noticed 1893, 149; the birds of South, noticed 1893, 581.
- Gregory, J. W., and the Villiers Expedition, 1893, 161; expedition to Mount Kenia, 1894, 121.
- Grenada, *Puffinus auduboni* in, noticed 1889, 386.
- Grey-hen, an albino in male plumage, noticed 1891, 459.
- Grieg, J. A., on a hybrid Grouse (*Lagopus urogallo-albus*), noticed 1891, 277; zoological excursion to Husa Island, noticed 1891, 277.
- Grouse, a new hybrid, noticed 1891, 277.
- Gruideæ, new genera of, 1893, 439.
- Guácharo, range in S. America of the, 1890, 335.
- Guatemala, a new Finch from, 1891, 272.
- Guayaquil, a new pigeon from, noticed 1889, 390.
- Guiana, on an unnamed species of *Picumnus* from, 1889, 354.
- Guillemard, F. H. H., Cyprus and its birds in 1888, 1889, 206.
- Guillemot, nesting of the common, on Rockhall, 1889, 135; exhibition of a series of eggs of the, 1894, 117.
- Guinea-fowl, on a new species of, 1894, 535.
- Günther, A., on the foot of the young of *Lynx torquilla*, 1890, 411.

- Gurney, J. H., on an apparently undescribed species of Owl from Anjouan Island, proposed to be called *Scops capnodes*, 1889, 104; letter on *Buteo swainsoni*, 1889, 134; letter containing remarks on some of the Raptorial birds referred to in 'The Ibis,' 1889, p. 65, 1889, 256; on an apparently undescribed species of Owl from the Liu Kiu (or Loo Choo) Islands, proposed to be called *Scops pryeri*, 1889, 302; letter on the measurements of *Falco minor* and *Circus macroscelus*, 1889, 397; letter containing remarks on the second volume of 'Argentine Ornithology,' 1889, 397; letter on the Rev. E. Fitch's birds from Kilima-njaro, and on the difference in size between *Asio capensis* and *Otus capensis major*, 1890, 126; letter on *Bubo milesi* and *B. abyssinicus*, 1890, 262; obituary, 1890, 392; correction in the obituary, 1890, 470; notes on *Buteo (Onychotes) solitarius*, 1891, 21; the collection of Raptorial Birds of, 1891, 632.
- Gurney, J. H., jun., letter on the longevity of *Porphyrio smaragdtonotus*, 1889, 398; letter on the variation in plumage of birds, 1889, 572; letter on the colour of the eye of *Coracias garrulus*, 1891, 296; on the collection of Raptorial Birds in the Norwich Museum, 1893, 338; on the immigration of the Lapland Bunting, noticed 1894, 125.
- Hæmatortyx sanguiniceps*, figured 1894, pl. x.
- Hagerup, A. T., 'The Birds of Greenland,' noticed 1892, 169.
- Hainan, birds of, 1893, 424; new species of birds from, 1893, 54; exhibition of Mr. Styan's types from, 1893, 251.
- Halcyones, Catalogue of the, in the British Museum, noticed 1892, 572.
- Hallux of the Kittiwake, 1892, 442, 575.
- Hamilton, A., on *Moa* gizzard-stones, noticed 1893, 134; on the genus *Aptornis*, noticed 1893, 135.
- Hancock, J., obituary, 1891, 153.
- Haplopelia johnstoni*, figured 1893, pl. iii.
- Harar, Ragazzi's birds from, noticed 1889, 130.
- Harcourt, E. W., observations on Mr. Grant's letter on the Birds of Madeira, 1891, 625.
- Hargitt, E., notes on Woodpeckers: No. XV. On three new American species, 1889, 58; No. XVI. On some new species of *Picidæ*, 1889, 229; No. XVII. On an apparently unnamed species of *Picumnus* from Guiana, 1889, 354; No. XVIII. On two new species from the Pilcomayo, 1891, 604; 'Catalogue of the Birds in the British Museum,' Vol. XVIII., *Picariæ*, noticed 1890, 450; letter on the review in 'The Auk' of the Catalogue of *Picidæ* in the British Museum, 1891, 465; description of a new species of *Picumnus*, and remarks on the distribution of the South-American species of the genus, 1894, 117.
- Harnsworth, A. C., note on the Polar Expedition of, 1894, 579.
- Hart, H. C., Fauna and Flora of Sinai, noticed 1891, 452.
- Hartert, E., ornithological notes, noticed 1891, 278; letter on the review of his paper on Malay Birds, 1891, 294; three new species of birds, noticed 1891, 452; on *Ammomanes lusitanica parvirostris*, noticed 1891, 615; catalogue of the birds in the Senckenberg Museum, noticed 1891, 615; on birds from Preanger, West Java, noticed 1892, 169; on birds from Mindoro and the other Philippine Islands, noticed 1892, 170; notes on the *Caprimulgidæ*, 1892, 274; letter on Steere's paper on the birds of the Philippines, 1892, 346; on the birds of East Prussia, 1892, 353, 504; on a little-known species of Lark of the genus *Otocorys*, 1892, 552; 'Catalogue of the *Picariæ* in the British Museum' (*Coraciæ*), noticed 1892, 570; expedition to Venezuela, 1892, 576; descriptions of some new species of birds from the Dutch West Indies, 1893, 123; on a new *Batrachostomus*, noticed 1893, 135; exhibition and description of a new *Conurus* from Aruba, 1893, 249; exhibition of the type specimen of *Hemignathus lanaensis*, 1893, 265; exhibition of the skin of a hybrid Goose, 1893, 265; on the birds of the Islands of Aruba, Curaçao, and Bonaire, 1893, 289; exhibition of some birds from the Sandwich Islands and Laysan, 1893, 438; exhibition and description of *Euethia sharpei* from the Dutch West Indies, 1893, 440; exhibition and description of *Pisorhina solokensis* from Sumatra, 1893, 441; on the *Chrysotis canifrons* of Lawrence, 1894, 102; exhibition

- of the type of *Gallinago tristrami*, 1894, 290; note on the locality of *Lophophorus sclateri*, 1894, 291; letter calling attention to two ornithological works by Drs. Rey and Wickmann, 1894, 301; remarks on German Birds, noticed 1894, 306; letter containing remarks on the mounting of type-specimens in Museums, and on the generic name *Micropus*, 1894, 321; exhibition of some skins of *Eupsychortyx* and description of *E. moequerysi*, 1894, 430; notes on the bird collections in the Kiel Museum, 1894, 549; on the mode of flight of the *Accipitres*, noticed 1894, 557.
- Hartlaub, G., bird-collecting during expeditions, noticed 1889, 119; on Emin Pasha's ornithological notes, noticed 1889, 119; letter on the identification of *Estrela nonnula* with *Habropyga tenerrima*, 1890, 263; on a collection of birds from China, noticed 1890, 453; on Emin Pasha's new birds from East Africa, noticed 1891, 131; on birds from Eastern Africa, noticed 1891, 453; on a new species of Flycatcher of the genus *Hyliota*, 1892, 373; on the birds of China, noticed 1893, 135; remarks by Dr. Sharpe on the paper 'Vier seltene Rallen' written by, 1893, 252; on four new Rails, noticed 1893, 267; extract of a letter from, on *Pennula caudata* and *P. sandwichensis*, 1893, 256.
- Harvard College Museum of Comparative Zoology, Report, noticed 1893, 451.
- Harvie-Brown, J. A., letter on the occurrence of *Cyanecula suecica* on the Monach-Islands Lighthouse, and on the Common Guillemot nesting on Rockall, 1889, 135; Contributions to the Fauna of the Shetland Isles, noticed 1893, 456; letter on the nesting of the Snow-Bunting in Banffshire 1893, 593.
- Harvie-Brown, J. A., and Buckley, T. E., 'Vertebrate Fauna of the Outer Hebrides,' noticed 1889, 564; 'Vertebrate Fauna of the Orkney Islands,' noticed 1892, 166; 'Vertebrate Fauna of Argyll and the Inner Hebrides,' noticed 1893, 136.
- Hasbrouck, E. M., evolution and dichromatism in the genus *Megascops*, noticed 1894, 125.
- Hatch, P. L., 'The Birds of Minnesota,' noticed 1893, 581.
- Hawaii, Avifauna of, noticed 1889, 253; Wilson's 'Aves Hawaiienses,' noticed 1891, 291, 1892, 178, 575, 1893, 463, 1894, 446; Knudsen's collection of birds from Kauai, noticed 1890, 460; notes on collecting in Kona, 1893, 101.
- Hawks of the United States, noticed 1893, 578.
- Heart, size of, in birds', noticed 1894, 562.
- 'Hebrides,' 'Vertebrate Fauna of the Outer,' noticed 1889, 564; *Phalaropus fulicarius* in the, 1891, 294; nesting of the Woodcock in the, 1891, 628; occurrence of *Grus leucogeranus* in the, 1891, 635, 1892, 181; a Vertebrate Fauna of the Inner, noticed 1893, 136.
- Heine, F., obituary, 1894, 459.
- Heine, F., jun., and Reichenow, A., 'Nomenclator Musei Heineani Ornithologici,' noticed 1891, 278.
- Heineanum, on the Birds in the Museum, noticed 1891, 278.
- Heligoland, fauna of, noticed 1891, 447; birds of, noticed 1891, 613; list of birds recorded by Herr Gätke from, 1892, 1.
- Helionithidae, distribution of the, 1893, 438.
- Helms, F., and Meyer, A. B., Sixth Report on the Birds of Saxony, noticed 1893, 141.
- Helms, O., the birds of South Greenland, noticed 1893, 581.
- Hemichelidon cinereiceps, figured 1889, pl. vii.
- Hemiphanthus hanapepe and H. stejnegeri, figured 1890, pl. vi.
- Hermaphrodite Finch, letter on a, 1890, 464.
- Heron, remarks on the classification of the, 1894, 430.
- Hertfordshire, birds of, noticed 1889, 247; 1894, 126.
- Herzegovina, the birds in the Museum of Sarajevo, noticed 1892, 333.
- Hesperornis, systematic position of, noticed 1891, 290, 449.
- Heterhyphantes stephanophorus, figured 1891, pl. vi.
- Heteroscoptes luciae, figured 1889, pl. iii.
- Hickson, S. J., 'A Naturalist in North Celebes,' noticed 1890, 249.
- 'Hirundinidae,' 'Monograph of the,' noticed 1889, 392; 1891, 287; 1894, 315.
- Hoatzin, anatomy of the, 1889, 283; habits of the, 1890, 327.
- Hodgson, B. H., obituary, 1894, 580.

- Holland, *Ampelis garrulus* in, 1892, 346; breeding-places of the Spoonbill in, 1892, 468; *Numenius tenuirostris* and *Glareola pratincola* in, 1893, 150; *Xema sabinii* in, 1893, 150; comparative list of the birds of England and, 1894, 123.
- Holland, A. H., on some birds of the Argentine Republic, with notes by P. L. Sclater, 1890, 424, 1891, 16; short notes on the birds of the Estancia Espartilla, Argentine Republic, 1892, 193; news from Argentina of, 1892, 472, 580, 1893, 477; letter on bird-migration in Argentina, 1893, 467; field-notes on the birds of Estancia Sta. Elena, Argentine Republic, with remarks by P. L. Sclater, 1893, 483.
- Holst, P. A., letter on collecting in the Loo Choo Islands, 1892, 575.
- Holtz, L., irruption of *Syrnhaptes paradoxus* in 1888, noticed 1891, 132.
- Honduras, Townsend's collection of birds from, noticed 1889, 128; birds of the Islands of the Bay of, 1889, 359, 1890, 84; new birds from the interior of, noticed 1892, 339.
- Hoopoe, the legendary history of, noticed 1890, 115.
- Hornaday, W. T., 'Taxidermy and Zoological Collecting,' noticed 1892, 170.
- Hornbill, a new African, 1891, 123.
- Hose, C., new species of birds from Mount Dulit, 1892, 322, 1893, 117; news from Mount Dulit of, 1892, 472; on the avifauna of Mount Dulit and the Baram District in the Territory of Sarawak, 1893, 381; new species of birds from Mt. Kalulong, 1893, 568; return to Borneo of, 1893, 476.
- Hudson, W. H., 'Naturalist in La Plata,' noticed 1892, 452; 'Idle Days in Patagonia,' noticed 1893, 457; 'Birds in a Village,' noticed 1893, 581; 'Lost British Birds,' noticed 1894, 558.
- Hudson, W. H., and Sclater, P. L., 'Argentine Ornithology,' vol. ii., noticed 1889, 391.
- Hudson's Bay, on birds from Fort Churchill, noticed 1891, 275.
- Huilla, birds of, noticed 1889, 569.
- Hume, A. O., 'Nests and Eggs of Indian Birds,' noticed vol. i. 1890, 374; ii., iii. 1891, 132.
- 'Humming-bird,' 'The,' noticed 1892, 349.
- Humming-birds, a new Bogota, noticed 1889, 116; a new species of, noticed 1890, 112; the tongue of the, noticed 1892, 172; memoir on the, noticed 1893, 147; of Paraguay, 1893, 285; two new species of, 1893, 449; and Swifts, comparative notes on, 1893, 84, 365; taxonomy of, 1894, 32.
- Hungary, Zoo-geography of South, noticed 1889, 563; birds of, noticed 1892, 334.
- Hunstein, C., death of, 1890, 267.
- Husa Island, Norway, zoological excursion to, noticed 1891, 277.
- Hutton, F. W., on the Classification of the Moas, noticed 1892, 566; the Moas of New Zealand, noticed 1893, 137; on *Dinornis queenslandiæ*, noticed 1894, 306.
- Hybrids, noticed 1891, 277, 620; bred in a wild state, noticed 1892, 344, 1893, 149; Duck, noticed 1893, 586; Goose, exhibited, 1893, 265; Grouse, 1894, 135, 447, 448.
- Hyliota, a new species of, 1892, 373; *H. nehrkorni*, figured 1892, pl. viii.
- Hyphantornis *bertrandi*, figured 1893, pl. ii.
- Hypocolius, note on, 1892, 473.
- Ichthyornis, notes on, noticed 1893, 590.
- Icteridæ, osteological notes on the, noticed 1889, 131.
- Idaho, birds from, noticed 1892, 336.
- Idzu, birds of, noticed 1889, 132.
- 'Illinois,' 'Ornithology of,' noticed 1890, 455.
- Incubation, periods occupied by birds in, 1891, 52; 1892, 55.
- 'Index Generum Avium,' noticed 1890, 123.
- 'India,' 'Fauna of British,' Aves, noticed 1890, 252, 1891, 283; 'Nests and Eggs of Indian Birds,' noticed 1890, 374, 1891, 132; remarks on the 'Birds of British India,' 1892, 59; Great Crested Grebe breeding in, 1892, 351; a new species of Wren from North-east, 1892, 62; nesting in Western, noticed 1892, 166; economic importance of birds in, noticed 1892, 571; on birds from, noticed 1894, 129; remarks on the Owls of the Indian Region, 1894, 433; new birds from East, noticed 1894, 440.
- Indiana Museum, list of Birds' Eggs in the, noticed 1891, 617; the collection of Birds in the, 1892, 65.
- Indiana, birds of, noticed 1892, 331.

- International Ornithological Congress of 1891, 1890, 467, 1891, 479; publications of the, 1891, 632, 1893, 144.
- Irby, L. H., 'British Birds: Key-List,' 2nd ed., noticed 1892, 567.
- Ireland, occurrence of *Syrphaptes paradoxus*, *Harelda glacialis*, and *Nyctea scandiaca* in, 1889, 137; 'List of Irish Birds,' 2nd ed., noticed 1890, 376; *Falco cenchris* in, 1891, 297; additions to the list of Irish Birds, 1891, 585; uncommon birds in the North of, 1892, 180; Sheathbill in 1893, 286; *Ampelis garrula* in, 1893, 463; occurrence of the American Red-breasted Snipe in, 1894, 297; the Common Scoter and Long-tailed Duck in, 1894, 451.
- Irene ellæ, figured 1891, pl. viii.
- 'Irish Naturalist,' noticed 1892, 567.
- Italy, *Syrphaptes paradoxus* in, noticed 1889, 121, 130, 391; Ornithological Investigation of, noticed 1890, 114, 1891, 131, 614; a Wagtail new to, noticed 1891, 620; 'Iconografia dell' Avifauna Italica,' fasc. xxviii.-l., noticed 1893, 455; *Pelecanus crispus* in, 1894, 453.
- Ixulus clarki* and *I. humilis*, figured 1894, pl. xiii.
- Iynx, paper on, noticed 1890, 373; the foot of the young of *Iynx torquilla*, 1890, 411.
- Jäckel, J., and Blasius, R., on the birds of Bavaria, noticed 1892, 335.
- Jackson, F. G., Polar Expedition, 1893, 286; 1894, 579.
- Jackson, F. J., extract from a letter from, containing notes on the birds of E.C. Africa, 1889, 583; on birds collected during an expedition to Uganda by, 1891, 117, 233, 587, 1892, 152, 299, 534; on some new Francolins and a new Hornbill discovered by, 1891, 123; exhibition and description of a new species of East-African Bush-Shrike, 1894, 117.
- J. G., birds of the Stonyhurst District, noticed 1889, 119.
- Jamaica, exhibition of *Aithya polytmus* and description of *A. taylori* from, 1894, 547.
- James, H. B., obituary, 1893, 162.
- Jameson, J. S., birds of the Aruwimi River, noticed 1890, 156; 'Story of the Rear Column of the Emin Pasha Relief Expedition,' noticed 1891, 280.
- Jan Mayen, birds of, noticed 1890, 449.
- Japan, birds of, noticed 1889, 132, 1890, 121, 1891, 139; a new species of *Zosterops* from Seven Islands, 1891, 273; notes on the birds in the Imperial University, Tokyo, noticed 1892, 462; birds of Tsu-sima, 1892, 87, 248; additions to the avifauna of Tsu-sima, 1892, 399; additions to the avifauna of, noticed 1893, 272; on a collection of birds from Yezo, noticed 1893, 272; birds of, in the Science College, Japan, 1894, 316; exhibition of some rare birds from, 1894, 547.
- Jardine and Selby's 'Illustrations of Ornithology,' dates of publication of, 1894, 326.
- Java, birds from Preanger in West, noticed 1892, 169; the species of *Zosterops* found in, 1893, 217; the species of *Merula* found in, 1893, 219; a new species of *Merula* from, 1893, 257; a new species of *Zosterops* from, 1893, 258; a new bird from, noticed 1894, 304.
- Jhering, H. v., news of, 1894, 141.
- Jobi, a new Cassowary from the Island of, noticed 1894, 560.
- Jouy, P. L., the collection of, 1892, 576; notes on birds from Central Mexico, noticed 1894, 558; obituary, 1894, 582.
- Junker, W., 'Travels in Africa,' noticed 1893, 137, 138.
- Jutland, ornithology of West, 1894, 339.
- Kabruang, exhibition of co-types of birds from, 1894, 547.
- Kaiser, A., the birds of Sinai, noticed 1894, 307.
- Kaiser-Wilhelms-Land, birds of, noticed 1893, 140.
- Kalinowski, J., news of, in Peru, 1894, 141.
- Kalulong (Mount), list of birds from, 1893, 546; new species of birds from, 1893, 568; additional list of birds from, 1894, 421.
- Kamtschatka, on a Woodpecker from, noticed 1889, 393.
- Kansas, birds of, noticed 1891, 451.
- Kauai, Knudsen's collection of birds from, noticed 1890, 460.
- Keeler, C. A., 'On the Colours of Birds,' noticed 1893, 582.
- Kelât, birds of, 1889, 145.
- Kempen, C. v., on abnormalities in coloration of animals, noticed 1889, 120; rare birds of the North of France, noticed 1890, 122; Pallas's Sand-

- Grouse in the North of France noticed 1890, 250.
- Kenia (Mount), Dr. Gregory's expedition to, 1894, 121; the *Nectarinia* of, 1894, 452.
- Kennedy, Admiral, 'Sporting Sketches in South America,' noticed 1892, 453.
- Kermadec Islands, a new *Petrel* from, 1891, 192; birds of the, noticed 1892, 333.
- Kerr, J. Graham, extracts from the letters of, on the *Pilcomayo* Expedition, 1890, 350, 1891, 13; letters from, 1891, 260; return from the *Pilcomayo* of, 1891, 475; on the avifauna of the Lower *Pilcomayo*, 1892, 120.
- Kiel, notes on the bird collections in the Museum at, 1894, 549.
- Kikombo, on birds from, 1889, 224.
- Kilima-njaro, letter on the Rev. E. Fitch's birds from, 1890, 126.
- Kina Balu (Mount), letter on a collection of birds from, 1893, 281; additions to the avifauna of, 1893, 560; exploration of, noticed 1893, 590; further notes on the avifauna of, 1894, 538.
- Kirk, T. W., notes on some New Zealand birds, 1889, 296.
- Kites, osteological notes on, 1891, 228.
- Kittiwake, rudimentary hallux of the, 1892, 442, 575.
- Kiwi from Stewart Island, noticed 1893, 127.
- Knudsen, V., collection of birds from Kauai, noticed 1890, 460.
- Koenig, A., birds of Madeira and the Canary Islands, noticed 1891, 615; on the birds of the Canaries, 1892, 181; Second Report on the Birds of Tunis, noticed 1893, 457.
- Kona, notes on collecting in, 1893, 101.
- Koran, birds mentioned in the, noticed 1889, 564.
- Kretzschmar, Dr., departure of, for Lamu, 1894, 454.
- Kurile Islands, birds from the, noticed 1892, 177.
- Kutter, O. F., death of, 1891, 480.
- Labrador -explorations in, noticed 1892, 453; 'The Labrador Coast,' noticed 1892, 569.
- 'Lakeland,' 'A Vertebrate Fauna of,' noticed 1893, 138.
- Lanai, a new species of *Hemignathus* from, 1893, 256.
- Lancashire, vertebrate fauna of, noticed 1893, 138.
- Laniarius bertrandi*, figured 1894, pl. ii.
- Lanius mackinnoni*, figured 1891, pl. xiii.; *L. raddei*, figured 1889, pl. v.
- Lansdell, H., on birds from Central Asia, noticed 1894, 439.
- 'La Plata,' 'Naturalist in,' noticed 1892, 452.
- Laridæ, geographical distribution of certain, 1894, 300.
- Larks, the Horned Larks of North America, noticed 1891, 448; on a little-known species of *Otocorys*, 1892, 522.
- Lataste, F., notes on Chilian birds, noticed 1894, 559.
- La Touche, J. D. de, on birds collected or observed in the vicinity of Foochow and Swatow in South-eastern China, Parts I., II., 1892, 400, 477.
- Lawrence, G. N., on a new species of *Catharus* from Ecuador, noticed 1889, 120; on the breeding of *Puffinus auduboni* in Grenada, W.I., with a note on *Zenaida rubripes*, noticed 1889, 386; on the former abundance of migrants on New York Island, noticed 1891, 454; on a species of Swift and a note on the *Diablotin*, noticed 1891, 454; the published writings of, noticed 1893, 455; on the validity of *Chrysotis canifrons*, 1893, 566.
- Laysan, exhibition of some birds from, 1893, 438; description of *Diomedea immutabilis* from, 1893, 448; 'Avifauna of,' noticed 1894, 132, 315.
- Leptosittaca branickii*, figured 1894, pl. xi.
- Le Souëf, D., on the nesting of Queen Victoria's Rifle-bird, noticed 1893, 459.
- Leverkühn, P., on the birds mentioned in the Koran, noticed 1889, 564; on new South-American birds, noticed 1889, 564; the legendary history of the Hoopoe, noticed 1890, 115; variations in coloration of Birds, noticed 1890, 116, 374; on the literature of Syrrhaptes, noticed 1890, 116; on former Pomeranian Bird-life, noticed 1891, 280; variations in colour in birds, noticed 1891, 280; letter on confounding *Surnia ulula* with *Asio accipitrinus*, noticed 1891, 464; new species of S. American birds, noticed 1891, 128; literature on Pallas's Sand-Grouse, noticed 1892, 171; new appointment and change of address of, 1893, 598; on the breeding of the *Crotophagidæ*, noticed 1894, 560.
- Lewis, H., on birds observed in Hertfordshire, noticed 1894, 126.
- Liberia, on the birds of, noticed 1889,

- 560, 561; Zoological Researches in, noticed 1891, 129; sketches of, noticed 1891, 613.
- Light-stations, birds at the German, noticed 1892, 329; birds at the Danish, noticed 1892, 344, 1893, 150, 1894, 135.
- Liguria, *Cypselus affinis* in, noticed 1891, 138.
- Lilford, Lord, a list of the Birds of Cyprus, 1889, 305; 'Coloured Figures of British Birds,' noticed 1889, 386, 1891, 455, 1893, 268; letter on the nesting-habits of the Bustard-Quail (*Turnix nigricollis*), 1892, 467.
- Limosa, on a species of, described by Martorelli, 1891, 133, 296.
- Linnets, correct generic name of the, 1892, 555.
- Littleboy, J. E., notes on the birds of Hertfordshire, noticed 1889, 247.
- Liu Kiu (*see* Loo Choo).
- Loche's collection of Algerian birds, 1889, 140.
- Lochmias nematura, nesting of, 1894, 484.
- London, Birds of, noticed 1893, 590; 'London Birds and London Insects,' noticed 1893, 270, 586.
- Loo Choo, on a new species of Owl (*Scops pryori*) from, 1889, 302; letter on collecting in, 1892, 575; notes on the birds of, 1893, 47; exhibition of some birds from, 1893, 116.
- 'Lord Howe Island,' Aves, noticed 1890, 114; additions to the avifauna of, noticed 1893, 269.
- Lorenz, L., the birds of Austro-Hungary, noticed 1893, 459, 597; ornithological excursion to the Lower Danube, noticed 1893, 583.
- Loria's birds from Papua, noticed 1891, 137.
- Loriculus bonapartei, figured 1891, pl. iii.
- Lorikeet, a rare species of, 1891, 48.
- Louisiade Islands, birds from the, 1889, 553.
- Lucas, F. A., osteology of the Thrushes, Miminae, and Wrens, noticed 1889, 387; on bird-skeletons collected by the 'Albatross,' noticed 1891, 133; expedition to Funk Island and observations on the Great Auk, noticed 1891, 281; on the Osteology of the Paridae, Sitta and Chamæa, noticed 1892, 171; on the tongue in the Humming-bird, noticed 1892, 172; explorations of the 'Grampus' in Newfoundland and Labrador, noticed 1892, 453; Swifts and Humming-birds, 1893, 365.
- Lucas, F. A., and Stejneger, L., natural history of the Commander Islands: X. Pallas's Cormorant, noticed 1890, 382.
- Lucknow, Catalogue of the Birds in the Provincial Museum at, noticed 1890, 455.
- Lumholtz, C., 'Among Cannibals in Queensland,' noticed 1890, 250.
- Luzon, birds of Mount Arajat in Central, 1894, 406; the birds of the highlands of North, 1894, 501; characters of new birds from North, 1894, 519.
- Lydekker, R., on British Fossil Birds, 1891, 381; Catalogue of Fossil Mammals, Birds, &c., in the Dublin Museum, noticed 1891, 456; Catalogue of Fossil Birds in the British Museum, noticed 1891, 456; remarks on some recently described Extinct Birds from Queensland, 1892, 530; on the extinct giant birds of Argentina, 1893, 40; contemplated visit to the Museums of the Argentine Republic, 1893, 477; note on the aquatic habits of the Chajá (*Chauna chavaria*), 1894, 268.
- Lyons, on the birds of the environs of, noticed 1892, 172.
- Lyre-bird, Prince Albert's, in captivity, 1893, 160.
- Macedonia, a new species of *Acredula* from, 1893, 248.
- MacFarlane, R., on birds and eggs from Arctic America, noticed 1892, 335.
- Macgregor's Paradise-bird, remarks on, 1891, 414.
- McLean, J. C., notes on the Spotted Shag (*Phalacrocorax punctatus*), 1889, 299; ornithological notes from New Zealand, 1892, 250; on the interbreeding of *Rhipidura fuliginosa* with *R. flabellifera*, 1894, 100.
- Macpherson, H. A., letter on the occurrence of *Tringa maculata* near Penrith, 1889, 136; on *Pelagodroma marina*, a Petrel new to the British List, 1891, 602; 'Birds of Devonshire,' noticed 1891, 460.
- Macpherson, H. A., and Ferguson, R. S., 'A Vertebrate Fauna of Lakeland,' noticed 1893, 138.
- Macrochires, studies of the, noticed 1890, 260.
- Macropygia, on the genus, 1890, 214.
- MacRury, J., the correct spelling of the name, 1889, 402.
- Madagascar, birds of, 1891, 194, 416, 557, 1892, 103, 261; observations on *Æpyornis*, noticed 1894, 307
- extinct birds from, noticed 1894, 440

- Madarász, J. v., description of two new birds from the Finisterre Mountains in New Guinea, 1894, 548.
- Madeira, *Cestrelata mollis* in, 1890, 386; notes on birds obtained at, 1890, 438; birds of, 1891, 469, 615, 625; Petrels of, 1892, 564.
- Magellan, birds from the Straits of, noticed 1890, 377.
- Malayan Peninsula, new species of birds from the, 1892, 99.
- Male plumage, Albino Grey-hen in, 1891, 459; of the genus *Malurus* 1891, 458.
- Malformations of the bill in birds, noticed 1892, 338.
- Manitoba, birds of, noticed 1891, 622.
- Mantanani, a new Owl from, 1893, 117.
- Manus of *Phenicopterus*, 1889, 183.
- Marage, R., sympathetic system of birds, noticed 1889, 387.
- Marshall, W., on Parrots, noticed 1889, 565; on Woodpeckers, noticed 1889, 566.
- Marsh-Tits, notes on European, noticed 1889, 252.
- Marsh-Warbler in Oxfordshire and Switzerland, noticed 1894, 305.
- Martorelli, G., on a species of *Limosa*, 1891, 133, 296; on the migration of birds, noticed 1893, 268.
- Mascarene Islands, extinct birds from, noticed 1894, 440.
- 'Matabele-land and the Victoria Falls,' 2nd ed., noticed 1890, 255.
- Mathew, M. A., birds of Somerset, noticed 1894, 439.
- Mathew, M. A., and D'Urban, W. S. M., 'Birds of Devon,' noticed 1893, 131.
- Matto Grosso, H. H. Smith's birds from Chapada, noticed 1892, 165; 1894, 122.
- Mauai, exhibition of *Palmeria mirabilis*, from, 1893, 249.
- Mauritius, on the bones of extinct birds from, noticed 1893, 584.
- Maximilian types, notes on, noticed 1892, 164.
- Meade-Waldo, E. G., notes on some birds of the Canary Islands, 1889, 1, 503, 1890, 429; news of, in the Canary Islands, 1889, 402; list of birds obtained in the Canary Islands, 1893, 185; exhibition of Blackcap's Eggs from the Canary Islands, 1894, 290.
- Megalæma, bristles on the bill of the young of the genus, 1891, 149.
- Melrose District, birds of the, noticed 1893, 132.
- Menzbier, M. A., Severtzow's 'Ornithology of Turkestan,' noticed 1889, 388, 1890, 116, 1892, 336; on the occurrence of White's Thrush in European Russia, 1893, 371; on some new or little-known Shrikes from Central Asia, 1894, 378.
- Merriam, C. H., report of the Ornithologist of the U.S. Department of Agriculture, noticed 1889, 124, 1890, 375; migration in the Mississippi Valley, noticed 1889, 383; North-American Fauna: No. 3. Birds of Arizona, noticed 1891, 134; on birds from Idaho, and description of a new Owl, noticed 1892, 336; on geographical distribution in North America, noticed 1893, 139.
- Merula, the species of, found in Java, 1893, 219.
- Mesobucco eximius, figured 1892, pl. xi.
- Meves, F. W., death of, 1892, 191.
- Mexico, new birds from, noticed 1889, 382, 1894, 441; note on the birds of, noticed 1889, 232; birds collected in Southern Mexico, noticed 1891, 288; two new forms of *Basileuterus rufifrons* from, noticed 1893, 148; a new *Odontophorus* from Southern, noticed 1894, 132; a new Storm-Petrel from Western, noticed 1894, 442; notes on birds from Central, noticed 1894, 558.
- Meyer, A. B., Pallas's Sand-Grouse in Bulgaria, noticed 1889, 248; on the coloration of the young in the *Psittacine* genus *Eclectus*, 1890, 26; scarce varieties of *Tetrao*, noticed 1890, 117; on rare Paradise-birds, noticed 1890, 117; 'Abbildungen von Vogel-Skeletten,' noticed 1890, 376, 1894, 126; notes on birds from the Papuan Region, with descriptions of some new species, 1890, 412; letter on *Merops salvadorii*, 1891, 293; on an albino Grey-hen in male plumage, noticed 1891, 459; on some Pigeons from Borneo and the Philippines, noticed 1891, 618; on a variety of the Partridge, noticed 1892, 172; letter on the correct locality of *Criniger aureus* and on the birds of the Togian Islands, 1892, 179; on birds from New Guinea and New Britain, noticed 1892, 337; birds from Kaiser-Wilhelms-Land, noticed 1893, 140; birds of Sumba, noticed 1893, 141; on *Aquila rapax* from Astrachan, noticed 1893, 459; on the egg of the Empress Augusta-Victoria's Paradise-bird, 1893, 481; on a new subspecies

- of Goura, noticed 1893, 583; new birds from East India, noticed 1894, 440.
- Meyer, A. B., and Helm, F., 3rd to 6th reports on the ornithological stations of Saxony, noticed 1889, 120; 1891, 251, 458; 1893, 141.
- Meyer, A. B., and Wigglesworth, L. W., new birds from Celebes, noticed 1894, 560.
- Micropus, remarks on the generic name, 1894, 318, 323, 422.
- Middendorff, E. v., report on the birds of the Russian Eastern Provinces, noticed 1889, 388; on the birds of East Russia, noticed 1891, 135; bird-life of the Russian lighthouses, noticed 1893, 268; obituary, 1894, 458.
- Midway Island, a new Finch from, 1890, 339.
- Migrants, the former abundance on New York Island of, 1891, 454.
- Migration of Birds, British Association Report on, noticed 1889, 560; in the Mississippi Valley, noticed 1889, 383; paper on, noticed 1893, 269; in Argentina, 1893, 467.
- Milan, rare birds in the Museo Civico, 1894, 457.
- Millais, J. G., 'Game Birds and Shooting Sketches,' noticed 1892, 453; exhibition of specimens of *Trachelotis barrovii* from S.E. Africa, 1894, 548.
- Milne-Edwards, A., letter proposing new names (*Pelargocrex* and *Belornis*) for the preoccupied names *Pelargopsis* and *Tachyornis*, 1893, 568; extinct birds from the Mascarene Islands and Madagascar, noticed 1894, 440.
- Milne-Edwards, A., and Grandidier, A., observations on *Æpyornis*, noticed 1894, 307.
- Milne-Edwards, A., and Oustalet, E., birds of the Comoro Islands, noticed 1889, 389; recently extinct birds, noticed 1894, 440.
- Mimocichla, a new species of, from Dominica, 1891, 612.
- Mindanao, Platen's birds from, noticed 1891, 129.
- Minodoro, birds from, noticed 1892, 170.
- Minnesota, the birds of, noticed 1893, 581.
- Mississippi Valley, migration in the, 1889, 383.
- Mivart, St. G., 'Elements of Ornithology,' noticed 1892, 568.
- Miyakeshima, exhibition of a specimen of *Diomedea immutabilis* from, 1894, 548.
- Moas, disappearance of, noticed 1892, 334; classification of, noticed 1892, 566; of New Zealand, noticed 1893, 137; gizzard-stones of, noticed 1893, 134.
- Mockler-Ferryman, A. F., 'Up the Niger,' noticed 1893, 269.
- Modigliani, E., voyage to Nias, noticed 1890, 376; birds from Sumatra, noticed 1892, 459; birds from Engano, noticed 1892, 460.
- Mogador, *Bernicla brenta* and *B. leucopsis* at, 1891, 297; bird-notes from, 1892, 471.
- Mojsisovics, A. v., zoo-geography of South Hungary, noticed 1889, 563.
- Mokohinou Islands, birds of, noticed 1891, 138.
- Molothrus, revision of the species of, noticed 1892, 344.
- Moluccas, additions to the Ornithology of the, noticed 1890, 258, 378; 1892, 176.
- More, A. G., 'List of Irish Birds,' 2nd ed., noticed 1890, 376; letter on the occurrence of *Falco cenchris* in Ireland, 1891, 297.
- Morocco, Bustard-hawking in, 1889, 405; the occurrence of *Hydrochelidon leucoptera* in, 1891, 464.
- Morphology of the Duck and Auk Tribes, noticed 1891, 285; of the Gallinaceæ, noticed 1891, 618.
- Morris, F. O., obituary, 1893, 287.
- Moscow, birds of, noticed 1893, 460.
- Moseley, E. L., descriptions of two new species of Flycatchers from the Island of Negros, Philippines, 1891, 46.
- Moulmein, the occurrence of *Circus spilonotus* in, 1894, 122.
- Muirhead, G., 'The Birds of Berwickshire,' vol. i., noticed 1890, 117.
- Müller, A., on an instance of a Cuckoo hatching its own eggs, 1889, 219.
- Mulu (Mount), birds from, 1894, 542.
- Munich, ornithology at, 1894, 106.
- Munn, P. W., on the birds of the Calcutta district, 1894, 39; remarks by Mr. Blanford on his paper, 1894, 320.
- Murghab, abundance of *Phasianus principalis* on the Upper, 1889, 584.
- Murray, J. A., edible and game birds of British India and Ceylon, noticed 1891, 135.
- Museums, arrangement of, noticed 1894, 556.
- Myology of the Raven, noticed 1891, 141.
- Myzomela, a new species from New Ireland, 1892, 350.

- Nasiterna, an apparently new species of, noticed 1891, 608.
- National Collection, additions to the, 1891, 629; birds' eggs in the, 1891, 631.
- Negros Island, two new Flycatchers from, 1891, 46; birds from, 1894, 531.
- Nehrkorn, A., letter on *Microtarsus nehrkorni*, 1894, 569.
- Nehrling, H., 'North-American Birds,' noticed 1890, 377; 1894, 127.
- Nelson, E. W., report on the birds of Alaska, noticed 1889, 248.
- Nelson, E. W., and Palmer, T. S., five new birds from Mexico, noticed 1894, 441.
- Neotropical Region, Berlepsch's notes on the birds of the, noticed 1890, 111, 112.
- Nests of Indian Birds, noticed 1890, 374, 1891, 132; nesting in Western India, noticed 1892, 166; nidification of *Plotus novæ-hollandiæ*, *Edoliosoma tenuirostre*, and *Turnix melanotus*, noticed 1892, 455; nesting of *Phibalura flavirostris* and *Lochmias nematura*, 1894, 484.
- Neuchâtel, birds observed in, 1891, 157.
- Neumann, O., in East Africa, 1894, 454.
- New Britain, birds from, noticed 1892, 337.
- Newfoundland, Blackgame in, 1889, 261; explorations in, noticed 1892, 453.
- New Guinea, a new species of *Platalea* from, 1889, 32; 'Birds of New Guinea,' noticed 1889, 247; notes on the Paradise-birds of British, 1890, 150; report on birds from British, 1891, 25; birds from, noticed 1892, 337, 347, 1894, 563; Loria's birds from, noticed 1892, 176; snaring Birds of Paradise in, 1893, 463; 'British New Guinea,' noticed 1893, 273; description of two new birds from Finisterre Mountains, 1894, 548.
- New Hebrides, a collection of birds from Tonga, noticed 1893, 454.
- New Ireland, a new *Myzomela* from, 1892, 250.
- Newton, A., letter on the use of the fore limbs of birds as instruments of progression, 1889, 577; on the young of Pallas's Sand-Grouse (*Syrrhaptes paradoxus*), 1890, 207.
- Newton, A., and Gadow, H., 'Dictionary of Birds,' noticed 1893, 584; 1894, 128.
- Newton E., address to the Norfolk and Norwich Naturalists' Society, noticed 1889, 121.
- Newton, E., and Gadow, H., on additional bones of the Dodo and other extinct birds from Mauritius, noticed 1893, 584.
- Newton's Bower-bird, habits of, 1889, 581.
- New York Island, the former abundance of Migrants on, noticed 1891, 454.
- 'New Zealand, Birds of,' noticed 1889, 243; Silver's collection of birds of, noticed 1889, 244; notes on some birds of, 1889, 296; supposed occurrence of *Strix parvissima* in, 1890, 24; ornithological notes from, 1892, 250; rare birds of, noticed 1892, 330; notes and observations on the birds of, noticed 1893, 127; extinct avifauna of, noticed 1893, 133; Moas of, noticed 1893, 137; preservation of native birds of, 1893, 158, 283; a new Snipe from the New Zealand region, 1893, 446; notes on certain species of birds of, 1893, 509; Snipes from the Islands of, 1894, 294.
- Nias, a voyage to, noticed 1890, 376.
- Nicaragua, a collection of birds from Central, 1892, 324; two new species of birds from, 1893, 263; birds of, 1894, 313.
- Nicholski, Dr., theory accounting for the variation in the shape of eggs, 1893, 265.
- Nicholson, F., Sundevall's 'Tentamen' (translation), noticed 1890, 251.
- Nicolls, J. A., and Eglington, W., 'The Sportsman in South Africa,' noticed 1893, 141.
- Niger, Voyage up the, noticed 1893, 269.
- Ninni, A. P., on the Long-tailed Titmouse of Venetia, noticed 1890, 252.
- Noll, F. C., on extinct birds, noticed 1890, 252.
- Norfolk, catalogue of birds shot in, noticed 1891, 142; *Muscicapa parva* in, 1891, 152; 'Birds of Norfolk,' noticed 1891, 288; *Tringa acuminata* in, 1893, 120, 181.
- Norfolk Island, additions to the avifauna of, noticed 1893, 269.
- North, A. J., on the plumage of adult males of the genus *Malurus*, noticed 1891, 458; 'Nests and Eggs of Birds found breeding in Australia and Tasmania,' noticed 1892, 337, 1893, 142; on the nidification of *Plotus novæ-hollandiæ*, *Edoliosoma tenuirostre*, and *Turnix melanotus*, noticed 1892, 455; nesting of *Manucodia comrii*, noticed 1893, 269; additions to the avifaunas of Tasmania and Norfolk and Lord Howe

- Islands, noticed 1893, 269; on the nest and eggs of *Gerygone magnirostris*, 1893, 373; *Oological Notes*, noticed 1893, 585; descriptions of the eggs of three species of South-Australian Parrakeets, 1894, 259; on the occurrence of the Corn-Crake in New South Wales, noticed 1894, 308; on a new Australian Parrakeet, noticed 1894, 308.
- North-West Provinces, Catalogue of the Birds in the Provincial Museum, noticed 1890, 455.
- Norway, the birds of Arctic, noticed 1893, 130; birds'-nesting excursion to the North of, 1894, 226; occurrence of *Colymbus adamsi* in, 1894, 269; contributions to the avifauna of, noticed 1894, 437; bird-life in Arctic, noticed 1894, 554.
- Norwich Museum, Raptorial Birds in the, 1893, 338.
- '*Novitates Zoologicae*,' No. 1, noticed 1894, 308.
- Nuteracker, of Japan, noticed 1890, 121; migration of the, to Western Europe, 1894, 136.
- Nyasaland, birds collected by A. Whyte in, 1893, 1, 1894, 1, 461; exhibition of a series of birds from, 1893, 120; map of, 1894, 462; exhibition of a skin of *Turnix nana* from, 1894, 424.
- Oates, C. G., 'Matabele-land and the Victoria Falls,' 2nd ed., noticed 1890, 255.
- Oates, E. W., on the European Cuckoo and its Indian Allies, 1889, 355; 'Fauna of British India,' Birds, noticed 1890, 252, 1891, 283; Hume's 'Nests and Eggs of Indian Birds,' noticed 1890, 374, 1891, 132; remarks on the 'Birds of British India,' by W. E. Brooks, 1892, 59; exhibition of some skins of birds from the Shan States, and description of *Ixulus clarki*, 1894, 433; on some birds collected on Byingyi Mountain, Shan States, Burma, 1894, 478.
- Cestrelata*, a new species of the genus, 1891, 192; *Ce. torquata*, figured 1891, plate ix.
- Ogilvie Grant (*see* Grant).
- Ohio Valley, distribution of Crossbills in the, noticed 1894, 554.
- Olphe-Galliard, L., on the usefulness of birds, noticed 1891, 284; on the birds of the environs of Lyons, noticed 1892, 172; obituary, 1893, 478.
- Oregon, fossil birds from, noticed 1892, 574; fossil birds of the desert of, noticed 1893, 270.
- Oriolus hosii*, figured 1893, plate x.
- 'Orkney Islands,' 'Vertebrate Fauna of the,' noticed 1892, 166.
- '*Ornithologisches Jahrbuch*,' noticed 1890, 382, 1891, 143.
- 'Ornithology,' 'Elements of' (Mivart's), noticed 1892, 568; Ornithological Congress at Budapest, 1891, 479, 632; Ornithological Notes, 1891, 278, 512; Ornithological works in course of publication, 1889, 405, 1890, 132, 389, 1891, 299, 1893, 598.
- Orthnocichla whiteheadi*, figured 1889, plate xii.
- Osteology, of *Porzana carolina*, noticed 1889, 131; of *Sturnella* and other Icteridæ and the Corvidæ, noticed 1889, 131; of Arctic and Sub-Arctic Water-birds, noticed 1889, 252, 393, 568, 1890, 260, 381, 460, 1891, 141, 287, 1892, 343; of *Circus hudsonicus*, noticed 1889, 568; of the N. American Anseres, noticed 1889, 568; of the Thrushes, Miminae, and Wrens, noticed 1889, 387; of the Tubinares and Steganopodes, noticed 1890, 120; of the Ardeinæ, noticed 1890, 120, 261; of North-American Passeres, noticed 1890, 458; of N. American Kites, 1891, 228; of the Paridæ, noticed 1892, 171; Osteological Specimens of Birds in the College of Surgeons, noticed 1892, 461.
- Otides, new genera of, 1893, 449.
- Otocorys berlepschi*, figured 1892, plate xiii.
- Oubangui, birds from, noticed 1893, 586.
- Oudh, Catalogue of the Birds in the Provincial Museum of, noticed 1890, 455.
- Oustalet, E., a new *Tinamou* (*Tinamotis ingoufi*) from Patagonia, noticed 1890, 453; breeding of Penguins, noticed 1891, 618; Scientific Mission to Cape Horn, Birds, noticed 1892, 173; description of two new birds of the families Paradiseidæ and Trogonidæ, noticed 1892, 174; on the birds of China and Tibet, noticed 1892, 455; on birds from the Congo and Oubangui, noticed 1893, 586; on birds from India, Tibet, and China, noticed 1894, 129; note on *Drepanornis bruijnii*, noticed 1894, 441; on new birds in the Paris Museum, noticed 1894, 441; on a new Cassowary from the island

- of Jobi, noticed 1894, 560; new birds from Ubangui, noticed 1894, 560; on birds from the Sahara, noticed 1894, 561; on birds from Turkestan, Tibet, and Western China, noticed 1894, 561.
- Oustalet, E., and Milne-Edwards, A., birds of the Comoro Islands, noticed 1889, 389; recently extinct birds, noticed 1894, 440.
- Owen-Stanley Peak, attempt to reach the, noticed 1889, 118.
- Owls in the Philadelphia Academy of Sciences, noticed 1891, 142; a new species of, from Idaho, noticed 1892, 336; of the United States, noticed 1893, 578; notes on the Indian, 1894, 433, 524.
- 'Oxfordshire,' 'Birds of,' noticed 1890, 110; Marsh-Warbler in, noticed 1894, 305; the Bird-collections in the Oxford University Museum, 1892, 186, 1893, 156.
- Pachycephala, on the Fijian species of, 1891, 93.
- Pacific Islands, a new Rail from the, noticed 1894, 556.
- Packard, A. S., 'The Labrador Coast,' noticed 1892, 569.
- Page, Capt., expedition to the Rio de la Plata, 1889, 402.
- Pahang Expedition, 1891, 476.
- Palaearctic Birds, notes on rare, 1891, 360; synonymy of some, 1893, 375; Palaearctic White-breasted Dippers, 1892, 380.
- Palawan, Platen's birds of, noticed 1889, 117, 1890, 38; description of *Cryptolopha xanthopygia* from, 1893, 263.
- Pallas's Cormorant, note on, noticed, 1890, 382.
- Pallas's Sand-Grouse, irruption in 1888 of, 1891, 132; in Italy, noticed 1889, 121, 130, 391, 1890, 259; in Ireland, 1889, 137; in Bulgaria, noticed 1889, 248; in Denmark, noticed 1890, 123; in the North of France, noticed 1890, 250; in Austro-Hungary, noticed 1890, 461; the young of, figured 1890, 207, pl. vii; the literature of, noticed 1890, 116, 1892, 171; in captivity, 1890, 465.
- Palma, notes on the Island of, 1890, 67.
- Palmer, T. S., and Nelson, E. W., five new birds from Mexico, noticed 1894, 441.
- Palmer, W., on birds observed during the cruise of the 'Grampus,' noticed 1891, 284.
- Papua, additions to the ornithology of, noticed 1890, 258, 378, 1892, 176; notes on birds from, 1890, 412; Loria's birds from, noticed 1891, 137, 1892, 176.
- Paradisea augustæ-victoriæ, eggs figured, 1893, pl. xiii.
- Paradise-birds, rare, noticed 1890, 251; notes on the British New Guinea, 1890, 150; remarks on Macgregor's, 1891, 414; 'Monograph of the,' noticed 1892, 340, 1893, 461, 1894, 442; cubital coverts in the, noticed 1892, 463; a new species of, noticed 1892, 174; snaring in New Guinea, 1893, 463; egg of the Empress Augusta-Victoria's, 1893, 481.
- Paraguay, nests and eggs from, noticed 1890, 113; Humming-birds of, 1893, 285.
- Paramythia montium, figured 1893, pl. vii.
- Parasitic Birds, noticed 1892, 559.
- Paridæ, osteology of the, noticed 1892, 171.
- Paris, new birds in the Museum of, noticed 1894, 441.
- Parker, T. J., on the anatomy and development of Apteryx, noticed 1891, 619; observations on the development of Apteryx, noticed 1893, 143; in England, 1893, 161.
- Parker, W. K., on the "manus" of Phœnicopterus, 1889, 183; Morphology of the Duck and Auk Tribes, noticed 1891, 285; morphology of the Gallinaceæ, noticed 1891, 618; death of, 1890, 468.
- Parrakeet, range and habits of the Carolina, noticed 1892, 562; description of the eggs of three species of, 1894, 259.
- Parrot, C., on the size of the heart in Birds, noticed 1894, 562.
- Parrots, paper on, noticed 1889, 565; new species of Pigmy, 1891, 608; Catalogue of the, in the British Museum, noticed 1892, 458; exhibition of three rare Argentine, 1894, 546.
- Partridge, a new variety of the, noticed 1892, 172.
- Parus ombriosus, figured 1890, pl. xiii.; P. palmensis, figured 1889, pl. xvi.
- Patagonia, expedition to, noticed 1890, 447; Fauna of, noticed 1890, 448; a new Tinamou from, noticed 1890, 453; 'Idle Days in,' noticed 1893, 457.
- Patterson, R. L., letter on the occur-

- rence of *Syrnhaptes paradoxus* and *Harelda glacialis* in Ireland, 1889, 137; letter on the occurrence of the Snowy Owl (*Nyctea scandiaca*) in Ireland, 1889, 260; letter on the occurrence of *Fulmarus glacialis* on Rathlin Island, 1889, 580; letter on the recent occurrence of *Dendrocopus major* in Ireland, 1890, 130; letter on uncommon birds in the North of Ireland, 1892, 180; letter on the occurrence of *Ampelis garrula* in Ireland, 1893, 463; letter on the escape from captivity of two Lesser Kestrels, 1894, 451.
- Pavesi, P., on a hybrid Duck, noticed 1893, 586; ornithological calendar of Pavia, noticed 1894, 130.
- Pavia, ornithological calendar of, noticed 1894, 130.
- Payton, O. A., letter on the occurrence of *Bernicla brenta* and *B. leucopsis* at Mogador, 1891, 297; letter on the occurrence of *Hydrochelidon leucopetra* in Morocco, 1891, 464.
- Pearson, H. J., exhibition of sets of eggs of certain Norwegian birds, 1894, 299; letter on a hybrid between the Willow Grouse and *Capercaillie*, 1894, 447.
- Pearson, H. J., and Bidwell, E., on a birds'-nesting excursion to the North of Norway in 1893, 1894, 226.
- Peek, H., British Birds at Rousdon, noticed 1889, 390.
- Pelargocrex, new generic name proposed, 1893, 568.
- Pelzeln, A. v., history of the collection of Birds in the Vienna Museum, noticed 1891, 459; death of, 1892, 188.
- Penguin of the Rio de la Plata, 1889, 144; near Cape Corrientes, 1889, 257; near Rio Grande do Sul, 1889, 258; Penguinary at the Jardin d'Acclimatation, Paris, 1891, 476; breeding of, 1891, 618.
- Penrisen, Mount, a small collection of Birds from, 1890, 366; birds collected by A. H. Everett on, 1893, 550.
- Penton, Capt., list of birds obtained near Suakin, 1894, 118.
- Perkins, R. C. L., expedition to the Sandwich Islands, 1892, 351; notes on collecting in Kona, Hawaii, 1893, 101; progress of, in the Sandwich Islands, 1893, 595; news of, in Hawaii, 1893, 596, 1894, 328.
- Persian Gulf, Cummings's birds from Fao, 1891, 103.
- Peru, two new birds from Northern, 1889, 181; Garlepp's Birds from North, noticed 1890, 111, 372; a new species of Grebe from Central, 1894, 109; new species of birds from Central, 1894, 385.
- Petrel, a new species of, 1891, 192; note on the Collared, 1891, 411; further particulars on the Collared, 1891, 477; *Pelagodroma marina* new to the British List, 1891, 602; Petrels of Madeira, noticed 1892, 564.
- Pheucticus, a new species of the genus, 1891, 272.
- Phibalura flavirostris, nesting of, 1894, 547.
- Philadelphia Academy of Sciences, Catalogue of Owls in the, noticed, 1891, 142.
- Philippine Islands, ornithological results of an expedition to, 1891, 301; two new Flycatchers from the Island of Negros, 1891, 46; some Pigeons from the, noticed 1891, 618; birds from the, 1892, 170, 1894, 406; distribution of genera and species of non-migratory land-birds in the, 1894, 411; the birds of the highlands of North Luzon, 1894, 501; birds from the Island of Negros, 1894, 531.
- Phœnicopterus, Manus of, 1889, 183.
- Pholidornis jamesoni, figured 1890, pl. v.
- Phyllostrephus cerviniventris, figured 1894, pl. ii.
- Picaglia, L., *Syrnhaptes paradoxus* in Italy, noticed 1889, 121.
- Picariae, catalogue of the, in the British Museum, noticed 1890, 450; 1892, 570, 572.
- Picidæ, new species of, 1889, 58, 229, 354.
- Pico-Passerine group of Birds, an attempt to diagnose, 1890, 29.
- Picumnus, an apparently unnamed species of, 1889, 354.
- Pidsley, W. E. H., and Macpherson, H. A., 'The Birds of Devonshire,' noticed 1891, 460.
- Pigeons from Borneo and the Philippines, noticed 1891, 618; classification of the, noticed, 1892, 177; Catalogue of, in the British Museum, noticed 1893, 587.
- Pigott, T. D., 'London Birds and London Insects,' noticed 1893, 270, 586; exhibition of a series of Guillemots' eggs, 1894, 117; exhibition of specimens of shingly beach resembling the eggs of Terns, 1894, 299.

- Pilecomayo, extracts from the letters of J. Graham Kerr on the, 1890, 350; expedition to the, 1891, 13, 260, 475; two new Woodpeckers from the, 1891, 604; avifauna of the Lower, 1892, 120.
- Pittidæ, review of the species of, 1893, 488; 'Monograph of the,' noticed 1893, 578, 1894, 305, 438.
- Platalea, on the genus, 1889, 32, 258.
- Platen's birds of Palawan, noticed 1889, 117; from Great Sanghir and Siao, noticed 1891, 274; from the Sooloo Islands, noticed 1891, 128; from Mindanao, noticed 1891, 129.
- Platycercus, on a species of, from Antipodes Island, noticed 1893, 133.
- Platystira jacksoni, figured 1892, pl. vii.
- Pleske, T., revision of the ornithofauna of Turkestan, noticed 1889, 250; 'Ornithographia Rossica,' noticed 1889, 563, 1890, 255, 1891, 461; Prejevalski's Journeys in Central Asia, Birds, noticed 1890, 256, 1891, 285; on some Hybrid Birds, noticed 1891, 620; description of two new Tits in the St. Petersburg Museum, 1894, 291; notes on certain species of Tits, 1894, 292.
- 'Ploceidæ,' 'Monograph of the,' noticed 1890, 248.
- Podiceps taczanowskii, figured 1894, pl. iv.
- Poeh (Mount), birds collected by A. H. Everett on, 1893, 550.
- Poey, F., death of, 1891, 300.
- Poland, birds of, noticed 1889, 133.
- Polar Expedition, New British, 1893, 286; note on the Jackson-Harmsworth, 1894, 579.
- Poliopsar, change of the name, to Spodiopsar, 1889, 580.
- Polynesia, on the Ptilopi of, 1891, 566; birds of, noticed 1892, 465.
- Pomeranian Bird-life, noticed 1891, 280.
- Porto Santo, notes on birds obtained at, 1890, 438.
- Pratincola dacotiae, figured 1889, pl. xv.
- Pratt, A. E., 'To the Snows of Tibet through China,' noticed 1892, 456.
- Preanger, Java, birds from, noticed 1892, 169.
- Prejevalski, N. M., Fourth Journey into Central Asia, noticed 1889, 122; Birds of Central Asia, pt. i., noticed 1890, 256; Journeys in Central Asia, noticed 1891, 285.
- Prince Albert's Lyre-bird in captivity, 1893, 160.
- Prioniturus verticalis, figured 1894, pl. vi.
- Prussia, birds of East, 1892, 353, 504.
- Psaltiriparus, a new Arizonan, noticed 1889, 129.
- Psilorhinus, on the genus, noticed 1891, 463.
- Psittaci, in the Australian Museum, noticed 1892, 174; in the British Museum, noticed 1892, 458.
- Psittacula, review of the genus, noticed 1889, 127.
- Pternistes, review of the genus, 1892, 32.
- Pteroptochian, a new Costa Rican, 1889, 262.
- Pterylography of Birds' Wings, noticed 1890, 453.
- Ptilocichla basilanica, figured 1891, pl. vii.
- Ptilonorhynchidæ, Monograph of the, noticed 1892, 340; 1893, 461; 1894, 442.
- Ptilopus, the Polynesian members of the genus, 1891, 566; P. clementinæ, figured 1891, pl. xi.; a new species of, noticed 1893, 460.
- Puglian avifauna, noticed 1891, 620.
- Pycnonotus taivanus, figured 1894, pl. ix.
- Pycraft, W. P., Pterylography of Birds' Wings, noticed 1890, 453; malformation of the bill in birds, noticed 1892, 338; on a point in the mechanism of the bill in birds, 1893, 361, 592; on the barbs of feathers, noticed 1894, 312; letter on material required by him for studying the pterylography of the bird's wing, 1894, 324; on the wing of Archaeopteryx, noticed 1894, 563.
- Pyrenees, contributions to the avifauna of the Eastern, 1889, 520.
- Quadrate Bone in Birds, noticed 1889, 394.
- 'Queensland,' 'Among Cannibals in,' noticed 1890, 250; extinct birds from, 1892, 530; exhibition of Geophaps plumifera from Northern, 1893, 570.
- Quelch, J. J., on the habits of the Hoatzin (Opisthocomus cristatus), 1890, 327; Birds of Prey of British Guiana, noticed 1893, 143.
- Quiscalus, on the Grakles of the subgenus, noticed 1892, 563.
- Quito, birds from, noticed 1889, 559.

- Radde, G., notes on birds collected in the Transcasian Region by, 1889, 85, 1890, 342; on the Birds of the Caucasus, noticed 1891, 136.
- Radde, G., and Walter, A., birds of Transcasia, noticed 1889, 567.
- Raeburn, H., the Great Skua, noticed 1891, 461.
- Raffles Museum at Singapore, 1890, 131.
- Ragazzi's birds from Shoa and Harar, noticed 1889, 130.
- Rail, description of a new, noticed 1889, 395; a new extinct, 1892, 473; four new species of, noticed 1893, 267; a new species of, from the Pacific Islands, noticed 1894, 556.
- Rallidæ, classification of the, 1893, 258.
- Ramage, G. S., collections of Birds from Dominica and St. Lucia, 1889, 403; birds from Fernando Noronha, noticed 1891, 140.
- Ramsay, E. P., tabular list of Australian Birds, noticed 1889, 123; supplement to the Catalogue of Australian Accipitres in the Australian Museum, noticed 1891, 136; Catalogue of the Birds in the Australian Museum, Part iii. Psittaci, noticed 1892, 174.
- Ramsay, R. G. W., on the Columbine Genus *Macropygia* and its allies, 1890, 214; on a new genus of the order Columbeæ, 1890, 246.
- Raptorial Birds, the Gurney Collection of, 1891, 632; in the Norwich Museum, 1893, 338.
- Rathlin Island, occurrence of *Fulmarus glacialis* on, 1889, 580.
- Raven, myology of the, noticed 1891, 141.
- Read, R., remarks on the changes of the plumage in the Black-headed Gull, 1893, 440; exhibition of an abnormally coloured Black-headed Gull, 1893, 444.
- Reed, E. C., notes on the birds of Chili, 1893, 595.
- Regalia, E., on the claws of Birds, noticed 1889, 124; 1893, 144.
- Reichenow, A., 'Nomenclator Musei Heineani Ornithologici,' noticed 1891, 278; on birds from East Africa, noticed 1893, 587; list of German Birds, 1894, 130; the birds of Bismarckburg, noticed 1894, 312.
- Reid, G., 'Catalogue of the Birds in the Provincial Museum, N. W. P. and Oudh, Lucknow,' noticed 1890, 455.
- Reiser, O., on the birds in the Sarajevo Museum, noticed 1892, 338.
- Remains of birds from Timaru, noticed 1892, 564.
- Rendall, P., notes on the ornithology of the Gambia, 1892, 215; appointment of, as Medical Officer to the Sheba Gold Mining Company, 1893, 285; arrival in the Transvaal of, 1893, 478.
- Report of the United States Department of Agriculture for 1888, noticed 1890, 375.
- Rhinomyias gularis, figured 1889, pl. vii.
- Rhipidura, review of the genus, noticed 1893, 265; additional note on the genus, noticed 1893, 451.
- Rhoads, S. N., the birds of Texas and Arizona, noticed 1893, 147; on *Parus hudsonicus* and its allies, noticed 1894, 313.
- Rhone, birds of the mouth of the, 1894, 549.
- Richardson, W. B., birds discovered in Central America by, 1891, 608.
- Richmond, C. W., on birds from Nicaragua and Costa Rica, and description of a new Trogon, noticed 1894, 313.
- Rickett, C. B., on some birds collected in the vicinity of Foochow, with notes by H. H. Slater, 1894, 215.
- Ridgway, R., review of the genus *Dendrocincla*, noticed 1889, 126; on *Catharus berlepschi*, noticed 1889, 126; on new species of Birds from Middle America, noticed 1889, 126; on the generic name *Uropsila*, noticed 1889, 127; on new birds from the Lower Amazons, noticed 1889, 127; review of the genus *Psittacula*, noticed 1889, 127; birds collected by C. H. Townsend on the Islands in the Caribbean Sea and in Honduras, noticed 1889, 128; a new *Psaltriparus* from Southern Arizona, noticed 1889, 129; descriptions of *Accipiter velox rufilatus* and *A. cooperi mexicanus*, noticed 1889, 251; note on *Œstelata sandwichensis*, noticed 1889, 251; a new Pigeon from Guayaquil, noticed 1889, 390; on the male of *Acanthidops bairdi*, noticed 1889, 390; letter on the difference between *Colymbus adamsi* and *C. glacialis*, 1890, 129; notes on Costa Rican Birds, noticed 1890, 117; review of the genus *Xiphocolaptes*, noticed 1890, 256; review of the genus *Sclerurus*, noticed 1890, 257; Birds of the Galapagos Islands, noticed 1890, 257; Birds from Santa

- Lucia, Abrolhos Islands, and the Straits of Magellan, noticed 1890, 377; notes on the genus *Xiphocolaptes*, noticed 1891, 137; observations on the Farallon Rail, noticed 1891, 286; directions for collecting Birds, noticed 1892, 175; a new species of Whippoorwill from Costa Rica, noticed 1892, 339; on new birds from Honduras, noticed 1892, 339; notes on some Costa Rica birds, noticed 1892, 339; note on *Pachyrhamphus albinucha*, noticed 1892, 340; on two new species of *Thamnophilus*, noticed 1892, 340; on a new *Ammodramus* from California, noticed 1892, 340; on the genus *Sittasomus*, noticed 1892, 457; 'The Humming-birds,' noticed 1893, 147; two new forms of *Basileuterus rufifrons* from Mexico, noticed 1893, 148; on a new *Odontophorus*, noticed 1894, 132; on two new Swifts, noticed 1894, 132; new birds from Aldabra and Assumption Island, noticed 1894, 314; birds from Costa Rica, noticed 1894, 314; remarks on the genus *Myiarchus*, noticed 1894, 314; revision of the genus *Formicarius*, noticed 1894, 442; on a new Storm-Petrel from Western Mexico, noticed 1894, 442; a new *Geothlypis* from Texas, noticed 1894, 563; on birds collected by the 'Albatross' in Alaska, noticed 1894, 563.
- Ridgway, R., and Forbes, S. A., 'The Ornithology of Illinois,' noticed 1890, 455.
- Ridley's birds of Fernando Noronha, noticed 1891, 140.
- Rifle-bird, nesting of the Victoria, 1892, 350; 1893, 459.
- Riker, C. B., birds observed at Santarem, Brazil, noticed 1892, 175.
- Riocour collection, 1889, 406.
- Rio Frio, birds of, 1894, 313.
- Robinson, W., on some albino Birds, noticed 1890, 118.
- Rollers, on different forms of African, 1890, 384; Monograph of the, noticed 1894, 304.
- Romita, V. de, additions to the Puglian Avifauna, noticed 1891, 620.
- Ross-shire, Slavonian Grebe breeding in, noticed 1893, 133.
- Rothschild, W., purchase of Sir W. Buller's collection, 1889, 403; descriptions of three new birds from the Sandwich Islands, 1893, 112; description of a new species of *Ptilopus*, 1893, 121; exhibition of *Palmeria mirabilis*, 1893, 249; description of *Anas laysanensis*, 1893, 250; description of a new species of *Hemignathus* from Lanai, 1893, 256; letter on *Loxops ochracea* and its synonyms, 1893, 281; exhibition and description of the type specimen of *Pseudonestor xanthophrys*, 1893, 438; exhibition and description of *Rallus muelleri*, 1893, 442; exhibition and descriptions of three new birds from the Sandwich Islands, 1893, 442; exhibition of a melanistic variety of *Alca torda* and of examples of some Asiatic species of birds, 1893, 444; description of *Diomedea immutabilis*, from Laysan, 1893, 448; exhibition of a pair of *Paradisea guillemi-secondi*, 1893, 450; exhibition of specimens of three species of *Chasiempis* from the Sandwich Islands, 1893, 570; descriptions of six new species of birds, 1893, 570; exhibition of examples of new species of birds and of living specimens of the various species of *Apteryx*, 1893, 573; notes on the genus *Apteryx*, 1893, 573; note on *Himatione dolei*, 1894, 121; 'Avifauna of Laysan,' noticed 1894, 132, 315; exhibition of, and remarks upon, a series of Snipes from the New Zealand Islands, 1894, 294; note on *Palmeria dolei*, 1894, 301; 'Novitates Zoologicae,' no. 1, noticed 1894, 308; exhibition of some eggs of *Ptilorhis victoriae*, 1894, 429; exhibition of some skins and living specimens of *Apteryx*, 1894, 429; exhibition of specimens of *Chaetoptila angustipluma*, *Loxops wolstenholmei*, and *Drepanornis bruijnii*, 1894, 433; exhibition of co-types of several species of birds from the Talaut Islands, Kabruang, and Salibabu, 1894, 547; exhibition of some rare Japanese birds, 1894, 547; exhibition of *Aithya polytmus* and description of *A. taylori* from Jamaica, 1894, 547; exhibition of a specimen of *Diomedea immutabilis* from Miyakeshima, 1894, 548.
- Rotti, on birds from the Island of, noticed 1893, 129.
- Rousdon, British Birds at, noticed 1889, 390.
- Russia, report on the birds of the Provinces of Eastern, noticed 1889, 388; 'Ornithographia Rossica,' noticed 1889, 563, 1890, 255, 1891, 461; birds of East, noticed 1891, 135; on the

- lighthouses of, noticed 1893, 268;
White's Thrush in European, 1893,
371.
- Ryder, J. A., on the form of the Fowl's
Egg, noticed 1894, 134.
- Sabara, on birds from the, noticed 1894,
561.
- St. John, O. B., on the Birds of Southern
Afghanistan and Kelât, 1889, 145;
obituary, 1891, 480, 635.
- St. Lucia, birds of, noticed 1890, 377.
- St. Petersburg, History of the Zoolo-
gical Museum of, noticed 1889, 569.
- St. Thomas, birds from, noticed 1889,
114; 1890, 248; 1892, 328.
- Saleyev, birds from, noticed 1894, 435.
- Salibabu, exhibition of co-types of birds
from, 1894, 547.
- Salvadori, T., on *Scelopax rosenbergi*
and *S. saturata*, 1889, 107; the dates
of publication of Bonaparte's 'Icono-
grafia della Fauna Italica,' noticed
1889, 129; on *Syrnhaptes paradoxus*
in Italy, noticed 1889, 130, 391; on
Ragazzi's birds from Shoa and Harar,
noticed 1889, 130; three new birds
from the Karenee Mountains, Burmah,
noticed 1890, 118; birds collected by
Fea in Burmah, noticed 1890, 118;
letter containing remarks on Water-
house's 'Index Generum Avium,'
1890, 124; extract from a letter from,
on *Turnix beccarii*, 1890, 130; addi-
tions to the Ornithology of Papua
and the Moluccas, noticed 1890, 28,
378, 1892, 176; Pallas's Sand-
Grouse in Italy, noticed 1890, 259;
on the identity of *Chrysotis cœligena*
with *Psittacus dufresnianus*, 1890,
367; on a rare species of Lorikeet in
the Rothschild collection, 1891, 48;
on Loria's birds from Eastern Papua,
noticed 1891, 137, 1892, 176; *Cyp-
selus affinis* in Liguria, noticed 1891,
138; letter on bristles at the base of
the bill of the young of the genus
Megalæma, 1891, 149; on a Wagtail
new to Italy, noticed 1891, 620; birds
of New Guinea and d'Entrecasteaux
Island, noticed 1892, 176; 'Cata-
logue of the Psittaci, or Parrots, in
the British Museum,' noticed 1892,
458; on Modigliani's birds from
Sumatra, noticed 1892, 459; on Mo-
digliani's birds from Engano, noticed
1892, 460; on the identity of *Chrysotis*
hecki with *C. lilacina*, noticed 1892,
468; characters of two new species of
the genus *Phlogoenas*, 1893, 120;
notes on *Conurus rubritorques*, 1893,
122; note on Mr. Forbes's remarks
on *Cabalus modestus*, 1893, 255;
letter on the distinctness of *Citto-
cincla tricolor* and *C. melanura*, 1893,
279; on a new species of *Ptilopus*,
noticed 1893, 460; letter on certain
species of *Cyanorhamphus*, 1893, 466;
'Catalogue of the Birds in the British
Museum,' vol. xxi. *Columbæ*, noticed
1893, 587; note on *Merula alpestris*,
noticed 1893, 589; new birds from
New Guinea, noticed 1894, 563; on
birds from Somali-land, noticed 1894,
564.
- Salvadori, T., and Giglioli, H. H., on the
birds of the voyage of the 'Vettor
Pisani,' noticed 1889, 130.
- Salvin, F. H., letter on Cormorants
using their wings when diving, 1891,
150.
- Salvin, O., a list of the birds of the Is-
lands of the coast of Yucatan and of
the Bay of Honduras, 1889, 359,
1890, 84; on a supposed new species
of Petrel of the genus *Cestrelata*,
from the Kermadec Islands, 1891,
192; note on the Collared Petrel
(*Cestrelata torquata*) recently re-
ported to have been killed on the
Welsh Coast, 1891, 411; descriptions
of two new species of birds from
Nicaragua, 1893, 263; description of
Cestrelata axillaris from the Chatham
Islands, 1893, 264; descriptions of
two new species of Humming-birds
from Ecuador, 1893, 449; description
of a new species of Humming-bird,
1894, 120.
- Salvin, O., and Godman, F. D., notes on
Mexican birds, 1889, 232; on a new
Finch of the genus *Pheucticus*, from
Guatemala, 1891, 272; descriptions
of five new species of Birds discovered
in Central America by W. B. Richard-
son, 1891, 608; 'Biologia Centrali-
Americana,' noticed 1891, 276, 449,
1892, 168, 451, 565, 1893, 134, 267;
on a collection of birds from Central
Nicaragua, 1892, 324.
- Salvin, O., and Hartert, E., 'Catalogue
of the Birds in the British Museum,'
vol. xvi. (*Picariæ*: *Upupæ*, *Trochili*,
and *Coraciæ*), noticed 1892, 570.
- Samao, birds from, noticed 1892, 331.
- 'Samoa,' voyage of the, noticed 1889,
385.
- Sandager, F., birds of the Mokohinou
Islands, noticed 1891, 138.
- Sanderling, distribution of the, 1892,
469.
- Sand-Grouse (*see* Pallas's Sand-Grouse).

- Sandpiper, occurrence in Norfolk of the Sharp-tailed, 1893, 181.
- Sandwich Islands, on some of the Birds of the, 1890, 170; birds of the, noticed 1891, 291, 1892, 178, 575, 1893, 463, 1894, 446; Perkins's expedition to the, 1892, 351; three new birds from the, 1893, 112, 442; exhibition of *Palmeria mirabilis* from Maui, 1893, 249; a new species of *Hemignathus* from Lanai, 1893, 256; exhibition of *Pseudonestor xanthophrys* from the, 1893, 438; exhibition of some birds from the, 1893, 438; exhibition of specimens of *Chasiempis* from the, 1893, 570; news of Mr. Perkins in the, 1894, 328.
- Sanghir (Great), Platen's birds from, noticed 1889, 118, 1891, 274.
- Santa Cruz, Solomon Islands, on birds from, 1894, 28.
- Santa Elena, notes on the birds of Estancia, 1893, 483.
- Santarem, birds observed at, noticed 1892, 175.
- Sarajevo, the birds in the Museum of, noticed 1892, 338.
- Sarawak, a small collection of Birds from Mount Penrisen, 1890, 366; notes on a collection of birds from, 1893, 117; avifauna of Mount Dulit and the Baram District, 1893, 381; map of Northern, 1893, 382; birds from Kalulong, 1893, 546, 568; birds of Mts. Penrisen and Poeh, 1893, 550; birds of N. Borneo and, 1893, 559; a new species of *Spilornis* from, 1893, 552, 569; birds from Mount Mulu, 1894, 542.
- Satounine, R., on the birds of Moscow, noticed 1893, 460.
- Saunders, H., 'Manual of British Birds,' noticed 1889, 567, 1890, 259; notes on birds observed in Switzerland, chiefly in the Cantons of Vaud and Neuchâtel, 1891, 157; letter on irregular visitors to the shores of the United Kingdom, 1892, 182; exhibition of a specimen of *Ædemia nigra*, 1893, 256; distribution of birds in France, 1893, 448; description of *Stercorarius macormicki*, 1894, 291; remarks on the geographical distribution of the Herring-Gull group of *Laridæ*, 1894, 300; observations on the plumage of *Larus melanocephalus*, 1894, 548; letter on Spanish examples of *Perdix cinerea*, 1894, 575.
- Saxony, report on the ornithological stations of, noticed 1889, 120; 1890, 251; 1891, 458; 1893, 141.
- Scandinavia, notes on the genus *Lagopus* in, 1894, 122.
- Schaeck, P. de, Monograph of the Francolins, noticed 1892, 461.
- Schalow, H., avifauna of Brandenburg, noticed 1891, 138; avifauna of the Atlas Mountains (Cis-Atlantean Sub-region), noticed 1891, 621; on the birds from the Aleutian and Kurile Islands, noticed 1892, 177; on *Pratincola rubicola* in N.E. Germany, noticed 1893, 270.
- Schlegel, H., proposed memorial to, 1892, 352.
- Schmidhoffen (see Tschusi zu Schmidhoffen).
- Schrenck, L. v., obituary, 1894, 459.
- Schulz, F., birds of Cordoba, noticed 1892, 178.
- Scilly Islands, *Phylloscopus superciliosus* in the, 1890, 387.
- Sclater, P. L., notes on some recently described species of *Dendrocolaptidæ*, 1889, 350; remarks on the Fifth Cubital Remex of the Wing in the *Carinatae*, 1890, 77; on the southern range of the *Cœrebidæ*, 1890, 131; on the generic term *Calodromas*, 1890, 265; on the range of the *Guácharo* (*Steatornis caripensis*) in South America, 1890, 335; 'Catalogue of the Birds in the British Museum,' vol. xv. *Tracheophonæ*, noticed 1890, 378; notes on Mr. Holland's birds from the Argentine Republic, 1890, 424, 1891, 16; note on *Pelecanus manillensis*, 1891, 151; remarks on *Macgregor's* Paradise-bird, *Cnemophilus macgregori*, 1891, 414; on recent advances in our knowledge of the Geographical Distribution of Birds, 1891, 514; note on *Calliste margarethæ*, 1892, 351; remarks on the correct generic name of the Linnets, 1892, 555; notes on the birds collected in Nyasaland by A. Whyte, 1893, 1; exhibition of some specimens of birds sent from Aden by Lieut. H. E. Barnes, 1893, 116; the bird collections in the Oxford University Museum, 1893, 156; birds of Antigua, W.I., 1893, 158; on *Tringa acuminata* in Norfolk, 1893, 181; notes on *Paranythia montium* and *Amalocichla sclateriana*, 1893, 243; note on the proper use of the generic terms *Certhiola* and *Cœreba*, 1893, 246; exhibition of *Paranythia montium*, 1893, 249; exhibition of a prepared wing and tail of *Calodromas elegans*, 1893, 256; extract of a letter

- from Dr. Hartlaub on *Pennula ecaudata* and *P. sandwichensis*, 1893, 256; Aden suggested as a place convenient for an ornithological excursion, 1893, 265; note on the 'Crocodile-bird' of the Nile, 1893, 277; note on Mr. Fairbridge's letter on *Phalacrocorax neglectus* breeding on Dassen Island, 1893, 279; remarks on the mounted birds in the Florence Museum, 1893, 441; note on the migratory birds which had visited the s.s. 'Oruba' between Gibraltar and Malta, 1893, 444; Great Bustards in the Zoological Gardens, 1893, 476; remarks on the birds of Estancia Sta. Elena, Argentine Republic, 1893, 483; exhibition of a skin of *Phalaropus fulicarius* from Chili, 1893, 570; exhibition of a skin of *Geophaps plumifera* from N. Queensland, 1893, 570; ornithology at Munich, Stuttgart, Darmstadt, Frankfurt, and Cassel, 1894, 106; exhibition of, and remarks upon, a specimen of the "King" Parrot, 1894, 119; exhibition of specimens of the eggs of *Podager nacunda* and *Hydropsalis furcifera*, 1894, 119; notes on the Birds of Uruguay, 1894, 149; resolution passed on Dr. Cabanis's retirement from the Editorship of the 'Journal für Ornithologie,' 1894, 293; exhibition of a needle used by the natives of N. Queensland made from the stem of a feather, 1894, 299; exhibition of, and remarks on, a skin of *Amaurolimnas concolor*, 1894, 299; exhibition of a specimen of *Coracias weigalli*, 1894, 299; exhibition of a skin of *Turnix nana* from Nyasaland, 1894, 424; remarks on the 'Scomber scomber' principle in ornithological nomenclature, 1894, 428; remarks on the birds of Antarctica, 1894, 494; exhibition of skins of three new Parrots from Argentina, 1894, 546; exhibition of eggs of *Phibalura flavirostris*, 1894, 547.
- Slater, P. L., and Hudson, W. H., 'Argentine Ornithology,' vol. ii. noticed 1889, 391.
- Slater, P. L., and Shelley, G. E., 'Catalogue of the Birds in the British Museum,' vol. xix. noticed 1891, 461.
- Slater, W. L., letter containing the description of the young of *Merula bourdilloni*, 1891, 472; on the Indian Museum and its collection of Birds, 1892, 65; Economic Importance of Birds in India, noticed 1892, 571; letter on the formation of a collection of British Birds for Eton College, 1893, 593.
- Slavonia, birds of, noticed 1891, 129; Slavonian Grebe breeding in Ross-shire, noticed 1893, 133.
- Sclerurus, review of the genus, noticed 1890, 257.
- Scolopacidae, on the mechanism of the upper mandible in the, 1893, 563.
- Scops brookii, figured 1893, pl. xi.
- Scoter (Common) in Ireland, 1894, 451.
- Scott-Elliot, Mr., news of, in Central Africa, 1894, 455.
- Scott, W. E. D., birds observed at the Dry Tortugas, Florida, noticed 1891, 286; the birds of the Caloosahatchie Region of Florida, noticed 1893, 148. 'Scottish Natural History,' Annals of, 1892, 348.
- Sea-birds, protection of, on the Farne Islands, 1889, 141.
- Sea-Eagles of N.E. Asia, 1892, 349.
- Seeböhm, H., an attempt to diagnose the suborders of the ancient Ardeino-Anserine assemblage of Birds by the aid of osteological characters alone, 1889, 92; remarks on Brandt's Siberian Bunting, 1889, 295; an attempt to diagnose the Pico-Passerine group of Birds and the suborders of which it consists, 1890, 29; on the birds of the Bonin Islands, 1890, 95; an attempt to diagnose the subclass Coraciiformes, and the orders, suborders, and families comprised therein, 1890, 200; 'Classification of Birds,' noticed 1890, 379; notes on Irish Ornithology, 1890, 397; on the Fijian species of the genus *Pachycephala*, 1891, 93; on the Birds of the Volcano Islands, 1891, 189; description of a new species of *Zosterops* from the Seven Islands, Japan, 1891, 273; on a collection of Birds from Western Szechuen, 1891, 370; on some recent additions to the List of Irish Birds, 1891, 585; 'The Birds of the Japanese Empire,' noticed 1891, 139; list of the Birds of Heligoland as recorded by Herr Gätke, 1892, 1; on the Birds of Tsu-sima, Japan, 1892, 87; further notes on the Birds of Tsu-sima, Japan, 1892, 248; further additions to the Avifauna of Tsu-sima, in the Japanese Empire, 1892, 399; letter on the distribution of the Sanderling, 1892, 469; notes on the birds of the Loo-Choo Islands, 1893, 47; exhibition of some birds from the Loo-Choo or Liu Kiu Islands, 1893, 116; exhibition of two examples of *Tringa*

- acuminata obtained on the Norfolk coast, 1893, 120; exhibition of *Oreocincla cuneata*, 1893, 122; remarks on the occurrence of *Sylvia nisoria* in the British Isles, 1893, 122; on the occurrence of the Sharp-tailed Sandpiper (*Tringa acuminata*) in Norfolk, 1893, 181; on the species of *Zosterops* found in the Island of Java, 1893, 217; on the species of *Merula* found in the Island of Java, 1893, 219; description of a new species of *Crossoptilon*, 1893, 250; description of a new species of *Merula* from Java, 1893, 257; description of a new species of *Zosterops* from Java, 1893, 258; remarks on the Geographical Distribution of British Birds, 1893, 262; exhibition of an egg of *Tringa canutus* taken near Disco, Greenland, 1893, 263; explanation of Dr. Nicholski's theory accounting for the variations in the shape of eggs, 1893, 265; on the cause of variation in the shape of the eggs of birds, 1893, 359; note on the cross-lines of migration in E. Siberia and N.W. America, 1894, 293; exhibition of, and remarks upon, a specimen of *Geocichla heinii*, 1894, 298; on the Chinese species of the genus *Suthora*, 1894, 338; description of *Merula thomassoni*, 1894, 552; on the distribution of British Birds noticed 1894, 564.
- Selous, F. C., 'Travel and Adventure in South-east Africa,' noticed 1894, 134.
- Senckenberg Museum, Catalogue of Birds in the, noticed 1891, 615.
- Seven Islands, a new species of *Zosterops* from, 1891, 273.
- Severtzow, N. A., ornithology of Turkestan, noticed 1889, 388; 1890, 116; 1892, 336.
- Shan States, exhibition of some birds' skins from the, 1894, 433; birds collected on Byingyi Mountain, 1894, 478.
- Sharpe, R. B., on the ornithology of Northern Borneo, with notes by John Whitehead, 1889, 63, 185, 265, 409, 1890, 1, 133, 273; letter on the changing of the name *Poliopsar* to *Spodiopsar*, 1889, 580; descriptions of three new species of Flycatchers, 1890, 205; on a small collection of birds from Mount Penrisen, Sarawak, 1890, 366; 'Catalogue of the Birds in the British Museum,' vol. xiii., Sturniformes, noticed 1890, 456; notes on a second collection of birds made by Mr. W. D. Cumming at Fao, in the Persian Gulf, 1891, 103; descriptions of fourteen new species of birds discovered by Mr. F. J. Jackson in Eastern Africa, 1891, 117; on the birds collected by Mr. F. J. Jackson during his recent Expedition to Uganda through the Territory of the Imperial British East-African Company, 1891, 233, 587, 1892, 152, 299, 534; diagnoses of new species of birds from Central East Africa, 1891, 443; notes on Ridley's and Ramage's birds from Fernando Noronha, noticed 1891, 140; a review of recent attempts to classify birds, noticed 1891, 621; descriptions of new species of birds discovered by Mr. C. Hose on Mount Dulit in N.W. Borneo, 1892, 322, 1893, 117; 'Monograph of the Paradisidae,' noticed 1892, 340, 1893, 461, 1894, 442; on the birds collected on the Second Yarkand Mission, noticed 1892, 341; on a collection of birds from Mount Dulit, in North-western Borneo, 1892, 430; 'Catalogue of Osteological Specimens of Birds in the Museum of the Royal College of Surgeons,' noticed 1892, 461; notes on a collection of birds sent from Borneo by Mr. A. H. Everett, 1893, 117; description of a new species of Owl from Mantanani, Borneo, 1893, 117; exhibition of the types of some new species of birds described by W. R. Davison, 1893, 118; description of *Stachyris davisoni*, 1893, 119; description of a new species of *Rhipidura* from the island of Dammar, 1893, 251; exhibition of the types of Hainan birds described by F. W. Styan, 1893, 251; remarks on Dr. Hartlaub's paper 'Vier seltene Rallen,' 1893, 252; on the authority for the name *Acredula macedonica*, 1893, 255; on the classification of the Rallidae and descriptions of new genera, 1893, 258; exhibition of, and remarks upon, some specimens of *Ocydromi*, 1893, 261; distribution of the *Helionithidae* and description of a new genus, 1893, 439; diagnoses of some new genera of *Gruidae*, 1893, 439; note on *Pennula sandwichensis* and *P. ecaudata*, 1893, 444; note on *Grus cinerea longirostris*, 1893, 444; remarks on fossil birds, 1893, 445; on new genera of *Otides*, 1893, 449; 'Analytical Index to the Works of the late John Gould,' noticed 1893, 461; Bornean Notes: I. 1893, 546

- (i. Birds from Mt. Kalulong, 1893, 546; ii. Birds from Mts. Penrisen and Poeh, 1893, 550; iii. A new *Spilornis*, 1893, 552; iv. Note on the Baza of Borneo, 1893, 553; v. Birds from N. Borneo and Sarawak, 1893, 559; vi. Additions to the Avifauna of Mt. Kina Balu, 1893, 560; vii. Description of the nest and eggs of *Staphidia everetti*, 1893, 563; II. 1894, 421 (viii. Additional list of birds from Mt. Kalulong, 1894, 421; ix. On the generic name *Micropus*, 1894, 422); III. 1894, 538 (x. Further additions to the Avifauna of Mt. Kina Balu, 1894, 538; xi. Notes on birds collected in Northern Borneo by Mr. A. H. Everett, 1894, 540; xii. On a collection of birds from Mt. Mulu in Sarawak, 1894, 542; xiii. Additions to the Avifauna of Mt. Dulit, 1894, 545); exhibition of the type of *Rallus plateni*, and description of a new genus *Aramidopsis*, 1893, 568; characters of new species of birds from Mt. Kalulong, 1893, 546, 568; new species of *Spilornis* from Sarawak, 1893, 552, 569; list of the birds obtained by Capt. Penton near Suakin, 1894, 118; description of a new species of *Ardeirallus* from Ceram, 1894, 118; on the discovery on Mt. Kenia by Dr. Gregory of *Pinarochroa hypospodia* and *Nectarinia johnstoni*, 1894, 121; description of four new species of birds from the Sulu Archipelago, 1894, 121; on a collection of birds sent by Mr. Alfred H. Everett from the Sulu Archipelago, 1894, 238; description of three new species of *Rhinoptilus*, 1894, 292; remarks on the geographical distribution of the Herons of the genus *Butorides*, 1894, 295; 'Catalogue of the Fulicariæ and Alectorides in the collection of the British Museum,' noticed 1894, 443; on the geographical distribution of the Little Bitterns, 1894, 425; the distribution of some species of the genus *Nycticorax*, 1894, 427; description of *Ardeirallus nesophilus*, 1894, 427; note on *Ardea purpurea*, 1894, 427; note on Fatio and Studer's 'Catalogue des Oiseaux de la Suisse,' 1894, 435; remarks on Dr. Reichenow's and Dr. Stejneger's classification of the Herons, and descriptions of the new genera *Xanthoecus*, *Erythrophox*, *Melanophox*, *Mesophox*, *Leucophox*, and *Erythocnus*, 1894, 430-432; 'Handbook to the Birds of Great Britain,' vol. i., noticed 1894, 565.
- Sharpe, R. B., and Grant, W. R. O., 'Catalogue of the Birds in the British Museum,' vol. xvii. (Picariæ: Coraciæ, Halcyones, Bucerotes, and Trogones), noticed 1892, 572.
- Sharpe, R. B., and Wyatt, C. W., 'Monograph of the Hirundinidæ,' noticed 1889, 392; 1891, 287; 1894, 315.
- Sheathbill in Ireland, 1893, 286.
- Shelley, G. E., on some new genera and species of the family Capitonidæ, 1889, 475; on a collection of Birds made by the late Mr. J. S. Jameson on the Aruwhimi River, Upper Congo, 1890, 156; 'Catalogue of the Birds in the British Museum,' vol. xix., noticed 1891, 461; first, second, and third lists of birds collected by Mr. Alexander Whyte in Nyasaland, 1893, 1, 1894, 1, 461; descriptions of some new species of African birds, 1893, 118; exhibition of a series of birds from Nyasaland, 1893, 120; exhibition of some specimens of African birds and descriptions of *Pæoptera kenricki* and *Artamia comorensis*, 1894, 434; proposal of *Enneoctonus reichenowi* as an emended title for *Lanius affinis*, 1894, 434; remarks on *Malacotus poliocephalus*, 1894, 434; creation of the genus *Bocagia* for the reception of *Telephonus anchietæ* and *T. minutus*, 1894, 434.
- Sherborn, C. D., dates of issue of Jardine and Selby's 'Illustrations of Ornithology,' 1894, 326.
- Shetlands, *Icterus baltimore* in the, 1891, 152; the Great Skua in the, noticed 1893, 129; notes on the nesting of some birds of the, 1893, 350; contributions to the fauna of the Shetland Isles, noticed 1893, 456.
- Shoa, Ragazzi's birds from, noticed 1889, 130.
- Shrikes from Central Asia, 1894, 378, 384.
- Shufeldt, R. W., on the skeleton of *Sturnella* and osteological notes on other Icteridæ and the Corvidæ, noticed 1889, 131; osteology of *Porzana carolina*, noticed 1889, 131; osteology of Arctic and Subarctic Water-birds, noticed 1889, 252, 393, 568, 1890, 260, 381, 460, 1891, 141, 287, 1892, 343; morphology of *Gallus bankiva*, noticed 1889, 252; on the affinities of *Aphriza virgata*,

- noticed 1889, 393; osteology of *N. American Anseres*, noticed 1889, 568; osteology of *Circus hudsonius*, noticed 1889, 568; osteology of the *Tubinares* and *Steganopodes*, noticed 1890, 120; osteology of the *Ardeinæ*, noticed 1890, 120; letter on the use of the terminal claw in young birds, 1890, 128; studies of the *Macrochires*, noticed 1890, 260; osteological studies of the *Ardeinæ*, noticed 1890, 261; progress in Avian Anatomy, noticed 1890, 381; on the anatomy of *Speotyto*, noticed 1890, 458; comparative osteology of the families of North-American *Passeres*, noticed 1890, 458; the position of *Chamaea* in the system, noticed 1890, 459; myology of the *Raven*, noticed 1891, 141; some comparative Osteological notes on the North-American *Kites*, 1891, 228; classification of the *Pigeons*, noticed 1892, 177; on Tertiary fossils of North-American birds, noticed 1892, 343; taxonomy of North-American *Pygopodes*, noticed 1892, 462; fossil birds from Oregon, noticed 1892, 574; comparative notes on the *Swifts* and *Humming-birds*, 1893, 84; on fossil birds of the Oregon Desert, noticed 1893, 270; on the mechanism of the upper mandible in the *Scelopacidae*, 1893, 563; on the systematic position of the *Chionididae*, noticed 1893, 589; notes on *Ichthyornis*, noticed 1893, 590; on the taxonomy of the *Swifts* and *Humming-birds*, 1894, 32; on a Hybrid Grouse, noticed 1894, 135; on cases of complete fibulae in existing birds, 1894, 361.
- Shufeldt, R. W., Jun., obituary, 1893, 164.
- Siao, Platen's birds from, noticed 1891, 274.
- Siberia, birds of Eastern, noticed 1892, 463.
- Sibree, J., Jun., on birds of Madagascar, and their connection with native Folk-lore, Proverbs, and superstitions: part i., 1891, 194; part ii., 1891, 416; part iii., 1891, 557; parts iv., v., 1892, 261.
- Silver, S. W., list of New Zealand birds, noticed 1889, 244.
- Simpson, summer migrants at Fort, 1892, 188.
- Sinai, fauna and flora of, noticed 1891, 452; birds of, noticed 1894, 307.
- Siphia, description of a new species of, 1891, 45.
- Sitta, osteology of, noticed 1892, 171.
- Sittasomus, notes on the genus, noticed 1892, 457.
- Skeletons of Birds, Meyer's, noticed 1890, 376; 1891, 133; 1894, 126.
- Skellig Rocks, visit to the, 1891, 1.
- Skua (Great), note on the, 1891, 461; in Unst, 1891, 633; in Shetland, noticed 1893, 129; persecution of the, noticed 1894, 437.
- Slater, H. H., on some Birds from South-eastern China, with descriptions of two new Species, 1891, 41; notes on the birds of the vicinity of Foochow, 1894, 215.
- Smilorhis whytii, figured 1893, pl. i.
- Smith, A. C., occurrence of the Great Bustard in Wilts, noticed 1892, 574.
- Smith, H. H., in St. Vincent, W. I., 1889, 403; birds from Chapada, noticed 1892, 165, 1894, 122.
- Smith, H. M., disappearance of *Spiza americana* from Columbia, noticed 1891, 288.
- Smith, W. W., on the supposed occurrence of *Strix parvissima* in New Zealand, 1890, 24; birds of Lake Brunner District, noticed 1890, 261; letter on *Eudytes pachyrhynchus* wandering inland, 1890, 462; notes on certain species of New Zealand birds, 1893, 509.
- Snares Islands, a new species of *Sphenæacus* from, 1894, 522.
- Snaring Birds of Paradise in New Guinea, 1893, 463.
- Snow-Bunting nesting in Banffshire, 1893, 569, 593; 1894, 117, 136.
- Solomon Islands, 'Naturalist among the Head-hunters,' noticed 1890, 382; birds from Bugotu and Florida, 1892, 293; birds from the, 1894, 28.
- Somali-land, Crow of, 1891, 628, 1894, 327; birds from, noticed 1894, 564.
- Somerset, birds of, noticed 1894, 439.
- Sooloo Islands, Platen's birds from, 1891, 128.
- Sousa, J. A. de, papers on birds of Angola, noticed 1889, 132, 1890, 120; birds of Huilla (Angola), noticed 1889, 569; birds of Angola, collected by J. d'Anchieta, noticed 1889, 569; death of, 1890, 267.
- Southwell, T., 'Birds of Norfolk,' noticed 1891, 288.
- 'Spain,' 'Wild,' noticed 1893, 453; letter on examples of *Perdix cinerea* from, 1894, 575.
- Spelman, W. W., catalogue of birds shot in Norfolk and Suffolk, noticed 1891, 142.

- Speotyto, anatomy of, noticed 1895, 458.
 Spey Valley, birds of the, noticed 1891, 448.
 Spezia, birds of, noticed 1889, 561.
 Spilornis, a new species from Borneo of, 1893, 552, 569.
 Spitzbergen, notes on the genus *Lagopus* in, 1894, 122.
 Spodiopsar, new genus, 1889, 580.
 Spoonbill breeding in Holland, 1892, 468.
 Spurs of the bird's-hand, noticed 1893, 144.
 Stafford Collection of British Birds, 1892, 577.
 Steere, J. B., ornithological results of an Expedition to the Philippine Islands in 1887 and 1888, 1891, 301; on the distribution of genera and species of non-migratory land-birds in the Philippines, 1894, 411.
 Steganopodes, osteology of, noticed 1890, 120.
 Steinen, Von den, the International Polar Commission, 1882-83: Birds of South Georgia, noticed 1891, 463.
 Stejneger, L., the birds of Idzu, Japan, noticed 1889, 132; review of Japanese birds: pt. vii. The Creepers of Japan, noticed 1889, 132; pt. viii. The Nutcracker of Japan, noticed 1890, 121; pt. ix. The Wrens of Japan, noticed 1890, 121; notes on European Marsh-Tits, noticed 1889, 252; further contributions to the Hawaiian Avifauna, noticed 1889, 253; notes on European Crested Titmice, noticed 1889, 253; letter on Mr. Grant's paper on Plateala, 1889, 258; on a *Kaatschatkan* Woodpecker (*Picoides albidior*), noticed 1889, 393; on Knudsen's collection of birds from Kauai, Hawaiian Islands, noticed 1890, 460; notes on Japanese birds in the Imperial University, Tokyo, Japan, noticed 1892, 462, 1894, 316; cubital coverts in the Paradise- and Bower-birds, noticed 1892, 463; addition to the Japanese Avifauna, noticed 1893, 272; on a collection of birds from the Island of Yezo, Japan, noticed 1893, 272.
 Stejneger, L., and Lucas, F. A., contributions to the natural history of the Commander Islands: x. Pallas's Cormorant, noticed 1890, 382.
 Stempelmann, H., and Schulz, F., on the birds of Cordoba, noticed 1892, 178.
 Sternum of *Opisthocomus cristatus*, noticed 1892, 565.
 Stevenson, H., and Southwell, T., 'Birds of Norfolk,' vol. iii., noticed 1891, 288.
 Stewart Island, on the Kiwi of, noticed 1893, 127.
 Stoliczka, F., the birds collected on the Second Yarkand Mission, noticed 1892, 341.
 Stolzmann, J., contribution to the ornithology of Transcaspia, noticed 1893, 462.
 Stolzmann, J., and Berlepsch, H., description of a new species of Grebe from Central Peru, 1894, 109; Descriptions de quelques espèces nouvelles d'oiseaux du Pérou central, 1894, 385.
 Stone, W., catalogue of Owls in the Philadelphia Academy of Sciences, noticed 1891, 142; birds collected in Yucatan and Southern Mexico, noticed 1891, 288; on the genus *Psilorhinus*, noticed 1891, 463; revision of the species of *Molothrus*, noticed 1892, 344; the birds of West Greenland, noticed 1893, 149; revision of the genus *Anous*, noticed 1894, 567.
 Stonyhurst District, birds of the, noticed 1889, 119.
Stoparola nigrimentalis, figured 1894, pl. xiv.
 Strauch, A., on the Zoological Museum of St. Petersburg, noticed 1889, 569.
 'Stray Feathers,' new part of, 1889, 262.
 Stringops, paper on, noticed 1890, 373.
 Studer, T., birds collected during the voyage of the 'Gazelle,' noticed 1891, 269.
 Studer, T., and Fatio, V., catalogue of the birds of Switzerland, noticed 1889, 394.
 Stuhlmann, F., Emin Pasha's last journey, noticed 1894, 445; in Bagamoyo, 1894, 454.
 Sturnella, the skeleton of, noticed 1889, 131.
 Sturniformes, catalogue of the, noticed 1890, 456.
 Stuttgart, ornithology at, 1894, 106.
 Syau, F. W., some notes on, and additions to, the Chinese Avifauna, 1889, 443; on the birds of the Lower Yangtse Basin, Part i., 1891, 316; Part ii., 1891, 481; on five apparently new species of birds from Hainan, 1893, 54; exhibition of the types of Hainan birds collected by, 1893, 251; on the birds of Hainan, 1893, 424; letter on two new species of birds from Formosa, 1893, 460;

- exhibition of a new species of *Bulbul* from Formosa, 1894, 120; notes on the Ornithology of China, 1894, 329.
Suakin, birds obtained by Capt. Penton near, 1894, 118.
Suchetet, A., on Hybrids bred in a wild state, noticed 1892, 344; 1893, 149.
Suffolk, catalogue of birds shot in, noticed 1891, 142.
Sulu Archipelago, new species of birds from, 1894, 121; on a collection of birds from, 1894, 238; map of, 1894, 239.
Sulymah River, on the birds of the, noticed 1893, 128.
Sumatra, *Modigliani's* birds from, noticed 1892, 459; description of *Pisorhina solokensis* from, 1893, 441.
Sumba, on birds from the Island of, noticed 1893, 129, 141.
Sundevall's 'Tentamen' (Translation), noticed 1890, 251.
Surnames taken from birds, 1892, 459; 1893, 159.
Suru, birds observed in, 1894, 367; 1894, 572.
'Sussex,' 'Birds of,' noticed 1891, 445.
Suthora, the Chinese species of, 1894, 338.
Swallows, *Monograph* of the, 1894, 315; *Swallow and Cuckoo* reared in the same nest, 1892, 524.
Swan, discovery of a new extinct, 1890, 264.
Swann, H. K., the birds of London, noticed 1893, 590.
Swatow, birds of, 1892, 400, 477.
Swifts, a new species of, noticed 1891, 454, 1894, 132; *Edible bird's-nest Swifts* in the Andaman Islands, 1892, 577; comparative notes on *Swifts* and *Humming-birds*, 1893, 84, 365; taxonomy of *Swifts* and *Humming-birds*, 1894, 32.
Switzerland, catalogue of the birds of, noticed 1889, 394; birds observed in, 1891, 157; *Marsh-Warbler* in, noticed 1894, 305.
Sycobrotus insignis, figured 1891, plate vi.
'Sylvan Folk,' by J. Watson, noticed 1889, 571.
Syrnhaptes paradoxus, young figured, 1890, plate vii.
Szechuen, birds from Western, 1891, 370.
Taczanowski, L., the birds of Poland, noticed 1889, 133; death of, 1890, 268; birds of Eastern Siberia, noticed 1892, 463.
Tagora, on *Emberiza pusilla* from, 1893, 117.
Tail-coverts in *Colaptes auratus*, noticed 1892, 332.
Talaut Islands, exhibition of co-types of birds from, 1894, 547.
Taschenberg, O., abstract of letter from, on the origin of the coloration of birds' eggs, 1894, 547.
Tasmania, nests and eggs of birds of, noticed 1892, 337, 1893, 142; additions to the avifauna of, noticed 1893, 269.
Tatare, notes on the genus, noticed 1893, 128.
"Taxidermy and zoological collecting," noticed 1892, 170.
Taxonomy, of North-American *Pygopodes*, noticed 1892, 462; of *Swifts* and *Humming-birds*, 1894, 32.
Taylor, E. C., letter on birds observed during a visit to Egypt, 1891, 473; letter on the Crow of Somali-land, 1891, 628.
Taylor, G. C., death of, 1890, 265.
Tegetmeier, W. B., on the principal modern breeds of the Domestic Fowl, 1890, 304; exhibition of a variety of the common Partridge, 1894, 303.
Telespiza cantans, figured 1890, plate ix.
Tenerife, *Fringilla teydea* nesting in, 1889, 260.
Terns, number of eggs laid by the *Sooty* and *Noddy*, 1891, 145.
Tetrao, scarce varieties of, noticed 1890, 117.
Texas, birds of, noticed 1892, 332, 1893, 147; birds of South-western, noticed 1889, 115; a new *Geothlypis* from, noticed 1894, 563.
Thamnophilus, two new species of, noticed 1892, 340.
Thinornis novæ-zealandiæ, pull., figured 1893, plate xv.
Thompson, D'A. W., the systematic position of *Hesperornis*, noticed 1891, 290.
Thompson, E. E., '*Birds of Manitoba*,' noticed 1891, 622.
Thomson, J. P., '*British New Guinea*,' noticed 1893, 273.
Thriponax kalinowskii, figured 1892, plate v.
Tibet, *Bonvalot's* journey through, noticed 1892, 448; '*To the Snows of Tibet*,' noticed 1892, 456; on birds from, 1892, 355, 1894, 129, 561; journey across, noticed 1894, 553.
Timaru, avian remains from, noticed 1892, 564.
'Timehri,' noticed 1889, 394.

- Timor, birds from, noticed 1892, 331.
- Tinamou, the alimentary canal of the Martineta, 1890, 61; a new species from Patagonia, noticed 1890, 453; Tinamous as food, 1894, 453.
- Titaghur, Calcutta, map of, 1894, 40.
- Titmice, notes on European Crested, noticed 1889, 253.
- Togian Islands, letter on the, 1892, 179.
- Tokyo, notes on Japanese birds in the Imperial University, noticed 1892, 462.
- Tonga, a collection of birds from, noticed 1893, 454.
- Tongue of Zosterops, 1891, 510.
- Torre, K. W. v. Dalla, Fauna of Heligoland, noticed 1891, 447.
- Tortugas, birds of Dry, noticed 1891, 286.
- Touche (*see* La Touche).
- Townsend, C. H., the collection of birds from the Caribbean Sea and Honduras of, noticed 1889, 128; birds collected by the ss. 'Albatross' on the coast of Western North America, noticed 1891, 290.
- Trachea of Manucodia comrii, 1891, 512.
- Tracheophonæ, Catalogue of the, noticed 1890, 378.
- Transcaspia, on Radde's collection of birds from, 1889, 85, 1890, 342; birds of, noticed 1889, 567, 1892, 345, 1893, 462.
- 'Transvaal,' 'Naturalist in the,' noticed 1892, 449.
- Traquair, R. H., address on the word 'Museum,' noticed 1893, 275.
- Trevor-Battye, A., exhibition of some skins of *Parus borealis* and *P. palustris*, 1893, 248; departure of, for Kolguev Island, 1894, 454.
- Trimen, R., on the vertebrates of the Cape Colony, noticed 1894, 135.
- Trinidad, birds of, noticed 1894, 436.
- Trinidad (Cuba), notes on birds observed at, noticed 1893, 452.
- Tringa acuminata, figured 1893, plate v.
- Tristram, H. B., ornithological notes on the Island of Gran Canaria, 1889, 13; note on a small collection of birds from Kikombo Central Africa, 1889, 224; some stray ornithological notes, 1889, 227; note on *Emberiza cioides*, Brandt, 1889, 293; in the Canary Islands, 1889, 402; on a small collection of birds from the Louisiade and d'Entrecasteaux Islands, 1889, 553; notes on the Island of Palma in the Canary Group, 1890, 67; Catalogue of his Collection of Birds, noticed 1890, 121; letter on birds observed during a voyage to Japan, 1891, 470; on an apparently new species of Pigmy Parrot of the genus *Nasiterna*, 1891, 608; letter on Dr. Koenig's paper on the ornithology of the Canaries, 1892, 181; on two small collections of birds from Bugotu and Florida, two of the smaller Solomon Islands, 1892, 293; note on *Nestor norfolcensis*, Pelz., 1892, 557; on the bird indicated by the Greek *Ἀλευών*, 1893, 215; on an undescribed species of Snipe from the New Zealand region, 1893, 446; Tristram's Grackle in captivity, 1893, 476; on some Birds from Bugotu, Solomon Islands, and Santa Cruz, 1894, 28; letter on the validity of the species *Coracias weigalli*, 1894, 320.
- Trochili, Catalogue of the, in the British Museum, noticed 1892, 570.
- Trochocercus albonotatus, figured 1892, plate vii.
- Trogones, Catalogue of the, in the British Museum, noticed 1892, 572.
- Trogonidæ, a new species of, noticed 1892, 174.
- Trondhjem District, new breeding-birds in the, 1890, 467.
- Trowbridge, C. C., letter on the opening of the extremity of the bill in the Scolopacidae, 1894, 449.
- Trumbull, G., names and portraits of birds which interest gunners, noticed 1889, 254.
- Tschusi zu Schmidhoffen, R. v., additions to the *Ornis* of Austro-Hungary, noticed 1889, 254; 'Ornithologisches Jahrbuch,' noticed 1890, 382, 461, 1891, 143; *Syrhaptes paradoxus* in Austro-Hungary, noticed 1890, 461; letter on the second occurrence of *Otocorys penicillata* in Bosnia, 1891, 295; list of memoirs of, noticed 1894, 568.
- Tsu-sima, birds of, 1892, 87, 248, 399.
- Tubinares, osteology of the, noticed 1890, 120.
- Tuck, W. H., on a tame Cuckoo, 1890, 466.
- Tunis, report on the birds of, noticed 1893, 457; notes on some birds of, 1894, 78; map of, 1894, 79.
- Tunisian Lark, a new, 1889, 263.
- Turacin, notes on, 1893, 594.
- Turkestan, Severtzow's ornithology of, noticed 1889, 388; *ornis* of, noticed 1889, 250, 1890, 116, 1892, 336, 1894, 561.

- Turle, W. H., a visit to the Blasket Islands and the Skellig Rocks, 1891, 1.
- Turner, L. M., natural history of Alaska, noticed 1889, 133.
- Turnix, on the genus, 1889, 446; *T. ocellata*, figured 1889, plate xiv.
- Type specimens, on the mounting of, 1894, 321.
- Ubanguï, new birds from, noticed 1894, 560.
- Uganda, Jackson's birds from, 1891, 233, 587; 1892, 152, 299, 534.
- Uist (North), *Carduelis elegans* and *Passer montanus* in, 1893, 592.
- 'United States,' 'Hawks and Owls of the,' noticed 1893, 578.
- Unst, Great Skua in, 1891, 633.
- Upupæ, catalogue of the, in the British Museum, noticed 1892, 570.
- Uropsila, on the name, noticed 1889, 127.
- Uruguay, Mr. Aplin's intended expedition to, 1892, 350; the birds of, 1894, 149; map of part of, 1894, 154.
- Van Dyck, W. T., letter on the distribution of *Nectarinia osee*, 1892, 469.
- Vaud, birds observed in, 1891, 157.
- Venetia, the Long-tailed Titmouse of, noticed 1890, 252.
- Venezuela, Hartert's expedition to, 1892, 576; notice of some birds from, noticed 1893, 125.
- 'Vettor Pisani,' birds of the voyage of the, noticed 1889, 130.
- Victoria, nesting of the Rifle-bird of, 1892, 350.
- Vienna Museum, history of the bird collection in the, 1891, 459; note on the number of specimens of Austro-Hungarian birds in the, 1893, 597.
- Volcano Islands, birds of the, 1891, 189.
- Vole-plague Districts, on Birds of Prey in the, noticed 1894, 552.
- Vorderman, A. G., birds of Billiton, noticed 1891, 623.
- Wagtail new to Italy, 1891, 620.
- Waldo (*see* Meade-Waldo).
- Walker, J., the bird-life of Adèle Island, North-west Australia, 1892, 254.
- Walker, M. L., quadrate bone in birds, noticed 1889, 394.
- Wallace, A. R., 'Darwinism,' noticed 1889, 570.
- Walter, A., and Radde, G., birds of Transcaspia, noticed 1889, 567.
- Waterhouse, F. H., 'Index Generum Avium,' noticed 1890, 123, remarks on, by Count Salvadori, 1890, 124.
- Watson, J., 'Sylvan Folk,' noticed 1889, 571.
- 'Weaver-birds,' 'Monograph of the,' noticed 1892, 248; from Sumatra, noticed 1893, 129.
- Welsh coast, Collared Petrel on the, 1891, 152.
- West Indies, birds of the, noticed 1889, 384; new birds from St. Thomas, noticed 1890, 248, 1892, 328; map of the, 1893, pl. viii.; catalogue of the birds of the, noticed 1893, 266; birds of Antigua, 1893, 158; origin of the bird-life of the, noticed 1893, 452; new species of birds from the Dutch, 1893, 123; description of *Euethia sharpei* from the Dutch, 1893, 440.
- Westmorland, Vertebrate Fauna of, noticed, 1893, 138.
- Whinchat, exhibition of a buff-coloured variety of, 1894, 117.
- Whippoorwill, a new species of, noticed 1892, 339.
- Whitaker, J. I. S., notes on some Tunisian Birds, 1894, 78.
- Whitehead, J., notes on the Ornithology of North Borneo, 1889, 63, 185, 265, 409, 1890, 1, 133, 273; notes on the Birds of Palawan, 1890, 38; description of *Cryptolopha xanthopygia* obtained in Palawan by, 1893, 263; letter on a collection of birds from Kina Balu, 1893, 281; contemplated expedition to the East, 1893, 478; a review of the species of the family Pittidæ, 1893, 488; exploration of Mount Kina Balu, N. Borneo, noticed 1893, 590; letter on a passage in Dr. Sharpe's "Bornean Notes," 1894, 316; field-notes on the birds of Mount Arajat, Philippines, 1894, 406; the birds of the highlands of North Luzon, 1894, 501; new birds collected in North Luzon by, 1894, 549.
- Whitely, H., obituary, 1893, 287.
- White's Thrush in European Russia, 1893, 371.
- "Who-are-you" of Waterton, 1892, 581.
- Whymper, E., 'Travels amongst the Great Andes of the Equator,' noticed 1892, 464.
- Whyte, A., on the collections made in Nyasaland by, 1892, 472, 1893, 1, 1894, 1, 461; return of, from Nyasaland, 1894, 455.

- Wickevoort-Crommelin, J. P. van, death of, 1892, 352.
- Wickmann, H., on the origin of the coloration of birds' eggs, noticed 1894, 568.
- Wiglesworth, L. W., on the Polynesian Members of the genus *Ptilopus*, 1891, 566; letter on the adult plumage of *Ptilopus fasciatus*, 1892, 345; 'Aves Polynesiæ,' noticed 1892, 465; acceptance of post as assistant in the Dresden Museum, 1892, 580; remarks on the birds of the Gilbert Islands, 1893, 210; letter on the generic name *Micropus*, 1894, 318.
- Wiglesworth, L. W., and Meyer, A. B., new birds from Celebes, noticed 1894, 560.
- Wilson, S. B., return of, from the Hawaiian Islands, 1889, 403; on some of the Birds of the Sandwich Islands, 1890, 170; on a new Finch from Midway Island, North Pacific, 1890, 339.
- Wilson, S. B., and Evans, A. H., 'Aves Hawaiienses: the Birds of the Sandwich Islands,' noticed 1891, 291; 1892, 178, 575; 1893, 463; 1894, 446.
- Wilts, occurrence of the Great Bustard in, noticed 1892, 574.
- Wing, on the fifth cubital remex in the wing of the *Carinatae*, 1890, 77; *Pterylography of Birds' Wings*, noticed 1890, 453; on the evolution of the bird's, 1893, 115; of *Archæopteryx*, noticed 1894, 563.
- Winge, H., Pallas's Sand-Grouse in Denmark, noticed 1890, 123; reports on the Birds of Denmark, noticed 1891, 292; on birds at the Danish light-stations, noticed 1892, 344; 1893, 150; 1894, 135.
- Winton, W. E. de, letter on hybrids between the Black-Grouse and *Capercaillie*, 1894, 448.
- Withington, F., news from Mexico of, 1892, 580; 1893, 284, 477.
- Wolley-Dod, C., on a case of a Cuckoo and a Swallow being reared in the same nest, 1892, 524.
- Woodcock nesting in the Outer Hebrides, 1891, 628.
- Woodford, C. M., 'A Naturalist among the Head-hunters of the Solomon Islands,' noticed 1890, 332.
- Woodpeckers, notes on, 1889, 58, 229, 354; paper on, noticed 1889, 565; on a Kamtschatkan, noticed 1889, 393; from the Pileomayo, 1891, 604.
- Worcestershire, birds of, noticed 1892, 330.
- Wray, R. S., death of, 1889, 263.
- Wrens, review of the, noticed 1890, 121; a new species from N.E. India, 1892, 62.
- Wyatt, C. W., 'British Birds,' noticed 1894, 447.
- Wyatt, C. W., and Sharpe, R. B., 'Monograph of the *Hirundinidæ*,' noticed 1889, 392; 1891, 287; 1894, 315.
- Xenocichla fusciceps*, and *X. milan-jensis*, figured 1894, plate i.
- Xiphocolaptes*, review of the genus, noticed 1890, 256; notes on the genus, noticed 1891, 137.
- Xiphorhynchus*, review of the genus, noticed 1890, 113.
- Yang-tze, field-notes on the, 1889, 262; birds of the Lower Basin of the, 1891, 316, 481.
- Yarkand, on the birds of, noticed 1892, 341.
- Yarmouth, *Tringa maculata* at, 1891, 149.
- Yezo, on a collection of birds from the Island of, noticed 1893, 272.
- Young, J., letter on the nesting of *Plectrophanes nivalis* in the north of Scotland, 1889, 137; letter on the occurrence of Penguins near Cape Corrientes, 1889, 257.
- Young, J. B., letter on the number of eggs laid by the Sooty and Noddy Terns, 1891, 145.
- Yucatan, birds of the Islands of the coast of, 1889, 359, 1890, 84; birds collected in, 1891, 288.
- Zaroudnoï, N., on the birds of Trans-Caspia, noticed 1892, 345.
- Zehntner, L., on the development of the feet of *Cypselus melba*, 1890, 196; development of *Cypselus melba*, noticed 1891, 292.
- Zeledon, J. C., description of a new Rail (*Aramides plumbeicollis*), noticed 1889, 395; catalogue of the birds of Costa Rica, noticed 1890, 462.
- Zeledonia, new genus of Costa Rican birds, 1889, 262.
- Zoological Collecting, Hornaday's, noticed 1892, 170.
- Zoological Gardens, Great Bustards in the, 1893, 476.
- Zoological Record for 1889, Aves, noticed 1889, 255; letter on the criticism of the, 1889, 399.
- Zosterops, a new species of, from Seven

Islands, 1891, 273; tongue of, 1891, 510; the species of, found in Java, 1893, 217; *Z. kikuyuensis*, figured 1891, plate xii.; *Z. clara*, figured 1890, plate viii.; *Z. metcalffi* and *Z. rendovæ*, figured 1894, plate iii.
Zosterornis whiteheadi, figured 1894, plate xv.

PLATES IN VOL. VI.

SIXTH SERIES.

	Page
I. { Fig. 1. <i>Xenocichla milanjensis</i>	9
{ Fig. 2. <i>Xenocichla fusciceps</i>	10
II. { Fig. 1. <i>Phyllostrophus cerviniventris</i>	10
{ Fig. 2. <i>Laniarius bertrandi</i>	15
III. { Fig. 1. <i>Zosterops metcalfi</i>	29
{ Fig. 2. <i>Zosterops rendovæ</i>	30
IV. <i>Podiceps taczanowskii</i>	109
V. Eggs of Birds of Uruguay	163
VI. <i>Prioniturus verticalis</i> , 1 ♂, 2 ♀	248
VII. { Figs. 1 ♂, 2 ♀. <i>Dicaeum sibuense</i>	251
{ Fig. 3. <i>Dicaeum hypoleucum</i>	252
VIII. <i>Colymbus adamsi</i>	273
IX. <i>Pycnonotus taivanus</i>	337
X. <i>Hæmatortyx sanguiniceps</i>	377
XI. <i>Leptosittaca branickii</i>	402
XII. <i>Agapornis lilianæ</i>	466
XIII. { Fig. 1. <i>Ixulus clarki</i>	481
{ Fig. 2. <i>I. humilis</i>	
XIV. { Fig. 1. <i>Cinnyris whiteheadi</i>	514
{ Fig. 2. <i>Stoparola nigrimentalis</i>	507
XV. { Fig. 1. <i>Zosterornis whiteheadi</i>	510
{ Fig. 2. <i>Chimarrhornis bicolor</i>	509



$\frac{5}{6}$

XIPHOCICHLA MILANENSIS.
XIPHOCICHLA TUSCICEPS

W. B. E. 1894. Imp.

1



$\frac{4}{5}$

Chrysomitris discolor HILL.

Mintern Bros. imp.

1. *PHYLLOSTROPHUS CERVINIVENTRIS*
2. *LANIARIUS BERTRANDI*.



1613.1394 P 17



J. G. Reichenow del et lith

PODICEPS TACHANOWSKII.

Mintern Bros. imp.



1.



2.



3.



4.



5.



6.



7.



8.

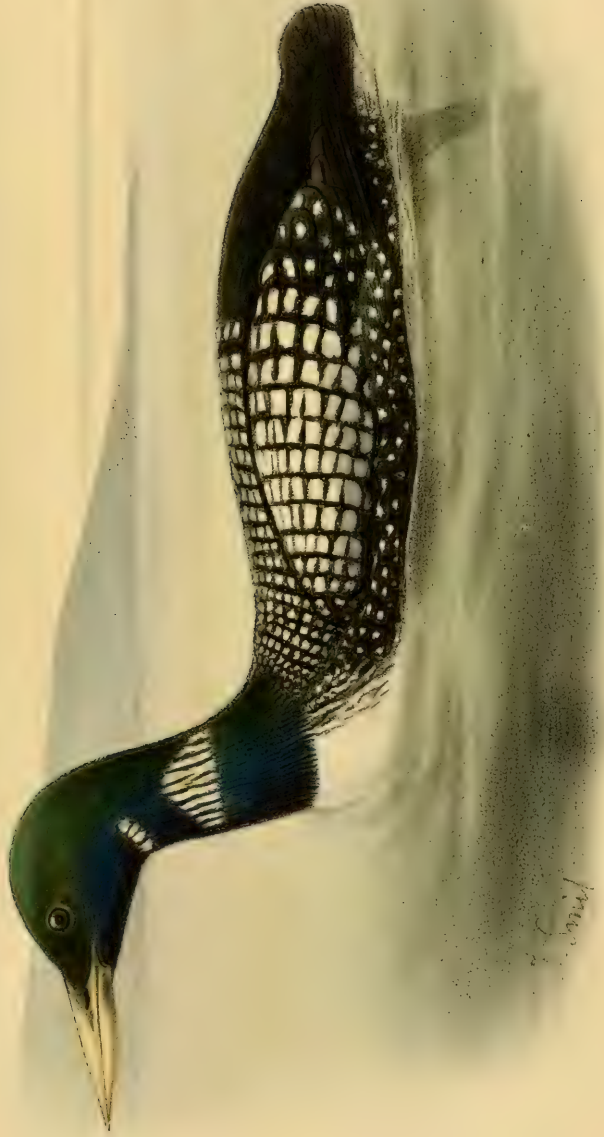




J. J. Henselman del. et lith.

Mintern Bros. imp.

DICAËUM SIBUTUENSE. 1 ♂. 2 ♀.
HYPOLEUCUM.



J. Smit del. et lith.

COLYMBUS ADAMSI.

Mittem Bros. imp.



J. G. Keulemans del. et lith.

Mintern Bros. imp.

PYCNONOTUS TAIWANUS







16. 1894 M. A.



J. G. Keulemans del. et lith.

1. IXULUS CLARKI. 2 I. HUMILIS.





J. G. Keulemans del et lith

Mintern Bros. imp.

1 ZOSTERORNIS WHITEHEADI
2 CHIMAREHORNIS BICOLOR

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON.



LONDON:

GURNEY AND JACKSON, 1, PATERNOSTER ROW.
(SUCCESSORS TO JOHN VAN VOORST.)

Annual Subscription, payable before 31st March each year, £1 1s.

SECOND EDITION.

Parts 1-26, ready, price 12s. 6d. each, net.

COLOURED FIGURES

OF THE

BIRDS OF THE BRITISH ISLANDS.

ISSUED BY

LORD LILFORD, F.Z.S. &c.,

PRESIDENT OF THE BRITISH ORNITHOLOGISTS' UNION.

In two Volumes, Royal 8vo. £3 3s. net.

ARGENTINE ORNITHOLOGY:

By P. L. SCLATER, M.A., PH.D., F.R.S., ETC.

WITH NOTES ON THEIR HABITS

By W. H. HUDSON, C.M.Z.S.,

LATE OF BUENOS AYRES.

With 20 Coloured Plates by J. G. Keulemans.

THE BIRDS OF THE SANDWICH ISLANDS. By SCOTT B. WILSON, F.Z.S., F.R.G.S., assisted by A. H. EVANS, M.A., F.Z.S. Parts I.-IV. ready, with 34 hand-coloured and 3 black Plates. Royal 4to. To be completed in 5 Parts at 21s. each, net.

Royal 8vo. Price 7s. 6d. net.

GEOGRAPHICAL DISTRIBUTION OF BRITISH BIRDS.

BY

HENRY SEEBOHM.

THE

AVIFAUNA OF LAYSAN

AND THE NEIGHBOURING ISLANDS;

With a Complete History of the
BIRDS OF THE HAWAIIAN POSSESSIONS.

By THE HON. WALTER ROTHSCHILD.

Illustrated with Coloured and Black Plates and
Collootype Photographs.

Imperial 4to (15 in. $\times$ 11 $\frac{1}{4}$ in.), in 3 Parts (Parts I. and II. ready),
price **£3 3s.** each, net.

Demy 8vo. 2s. net.

BIRD-LIFE IN ARCTIC NORWAY.

By ROBERT COLLETT.

Translated by ALFRED H. COCKS, M.A.

BULLETIN of the BRITISH ORNITHOLOGISTS' CLUB.

Edited by Dr. R. BOWDLER SHARPE.

Vol. I. complete: as issued 6s. net, or bound in cloth 7s. 6d. net.

R. H. PORTER, 18 PRINCES STREET, CAVENDISH SQUARE, W.

CONTENTS OF NUMBER XXI.—SIXTH SERIES.

	Page
I. Second List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. SHELLEY, F.Z.S. (Plates I., II.)	1
II. On some Birds from Bugotu, Solomon Islands, and Santa Cruz. By H. B. TRISTRAM, D.D., F.R.S. (Plate III.)	28
III. On the Taxonomy of the Swifts and Humming-birds: a Rejoinder. By Dr. R. W. SHUFELDT, C.M.Z.S.	32
IV. On the Birds of the Calcutta District. By PHILIP W. MUNN, M.B.O.U.	39
V. Notes on some Tunisian Birds. By J. J. S. WHITAKER, F.Z.S.	78
VI. On the Interbreeding of <i>Rhipidura fuliginosa</i> with <i>R. flabellifera</i> . By J. C. MCLEAN	100
VII. On the <i>Chrysotis canifrons</i> of Lawrence. By ERNST HARTERT.	102
VIII. Ornithology at Munich, Stuttgart, Darmstadt, Frankfort, and Cassel. By THE EDITOR	106
IX. Description of a new Species of Grebe from Central Peru. By HANS, Graf von BERLEPSCH, and JEAN STOLZMANN. (Plate IV.)	109
X. Bulletin of the British Ornithologists' Club. Nos. XI. & XII.	113
XI. Notices of recent Ornithological Publications:—	
1. Allen on the Birds of Matto Grosso	122
2. Blaauw's Comparative List of the Birds of Holland and England	123
3. Gadow's "Aves" in Bronn's 'Thier-Reich'	124
4. Gurney on an Immigration of the Lapland Bunting	125
5. Hasbrouck on Dichromatism in <i>Megascops</i>	125
6. Lewis on the Birds of Hertfordshire	126
7. Meyer's Illustrations of Birds' Skeletons	126
8. Meyer on the Birds of German New Guinea	127
9. Nehrling's North American Birds	127
10. Newton and Gadow's Dictionary of Birds	128
11. Oustalet on Birds from India, Tibet, and China	129
12. Pavesi's Ornithological Calendar of Pavia	130
13. Reichenow's List of German Birds	130
14. Ridgway on two new Swifts	132
15. Ridgway on a new <i>Odontophorus</i>	132
16. Rothschild on the Avifauna of Laysan	134
17. Ryder on the Form of the Fowl's Egg	134
18. Selous on Mashunaland and its Birds	135
19. Shufeldt on a Hybrid Grouse	135
20. Trimen on the Vertebrates of the Cape Colony	135
21. Winge on Birds observed at the Danish Light-stations	135
XII. Letters, Extracts, Notices, &c.	
Letters from Heer F. E. Blaauw and Mr. W. R. Ogilvie Grant. Report of the British Museum for 1892; <i>Otocorys penicillata</i> in Europe; Collectors in South America; The Systematic Position of <i>Æpyornis</i> ; The Manus of <i>Archæopteryx</i> . Obituary: Emin Pasha, Dr. George Bennett, and Pastor Baldamus	136

Covers for binding last year's Volume may be had on application to the Publishers.

Communications may be addressed to the EDITOR, 3 Hanover Square, London, W. Advertisements &c. to the Publishers, GURNEY & JACKSON, 1 Paternoster Row, London, E.C. (Successors to J. VAN VOORST).

Members of the B. O. U. are requested to keep the Secretary, F. McCANE GODMAN, Esq., 10 Chandos Street, Cavendish Square, W., informed of any change of Residence, so that the Numbers of 'The Ibis' may be sent to them without delay.

PUBLICATIONS RECEIVED SINCE THE ISSUE OF No. 20, SIXTH SERIES,
AND NOT NOTICED IN THE PRESENT NUMBER.

1. ADNEY. On "Milicete Indian Natural History." (Abstr. Proc. Linn. Soc. New York, 1892-93, no. 5.)
2. Annals of Scottish Natural History. (1893, nos. 6-8.)
3. BULLER. Note on the Flightless Rail of the Chatham Islands (*Cabalus modestus*). (Trans. N. Zealand Inst. xxv. p. 52.)
4. BULLER. Notes on New Zealand Birds. (Trans. N. Zealand Inst. xxv. p. 53.)
5. BÜTTIKOFER. On two new Species of *Pachycephala* from South Celebes. (Notes Leyden Mus. xv. p. 167.)
6. BÜTTIKOFER. On two new Species of the Genus *Stoparola* from Celebes. (Notes Leyden Mus. xv. p. 169.)
7. BÜTTIKOFER. On a new Species of the Genus *Gerygone* from Borneo. (Notes Leyden Mus. xv. p. 174.)
8. BÜTTIKOFER. On two new Species of Birds from South Celebes. (Notes Leyden Mus. xv. p. 179.)
9. BÜTTIKOFER. On two new Species of the Genus *Gerygone*. (Notes Leyden Mus. xv. p. 258.)
10. HARTERT. Systematische, nomenklatorische und andere Bemerkungen über deutsche Vögel. (Reichenow's Ornith. Monatsb. i. p. 165.)
11. HUTTON. On *Dinornis* (?) *queenlandiae*. (Proc. Linn. Soc. N. S. Wales, 2nd ser. viii. p. 7.)
12. Mittheilungen des ornithologischen Vereines in Wien. (xvii. nos. 10, 11.)
13. The Nidiologist. (Vol. i. no. 3, 1893.)
14. NORTH. On a Specimen of *Crex crex*, shot at Randwick, New South Wales. (Records Australian Mus. ii. p. 82.)
15. NORTH. Description of a new Species of Parrakeet, of the Genus *Platyercus*, from North-west Australia. (Records Australian Mus. ii. p. 83.)
16. Ornithologisches Jahrbuch. (Jahr. iv. 1893, Heft 5.)
17. PYCRAFT. The Interlocking of the Barbs of Feathers. (Nat. Science, iii. p. 197.)
18. QUATREFAGES. The Moas and the Moa-hunters. (Trans. N. Zealand Inst. xxv. p. 17.)
19. REICHENOW. Die Vogelfauna der Umgegend von Bismarckburg. (Mitth. deutsch. Schutzgebieten, Berlin, vi. Heft 3.)
20. RHOADS. The Hudsonian Chickadee and its Allies, with Remarks on the Geographical Distribution of Bird Races in Boreal America. (The Auk, x. p. 321.)
21. RICHMOND. On a Collection of Birds from Eastern Nicaragua and Rio Frio, Costa Rica, with Notes, and a Description of a supposed new Trogon. (Proc. U.S. Nat. Mus. xvi. p. 479.)
22. RIDGWAY. Descriptions of some new Birds collected on the Islands of Aldabra and Assumption, North-west of Madagascar, by Dr. W. L. Abbott. (Proc. U.S. Nat. Mus. xvi. p. 597.)
23. RIDGWAY. Remarks on the Avian Genus *Myiarchus*, with special reference to *M. yucatanensis*, Lawrence. (Proc. U.S. Nat. Mus. xvi. p. 605.)
24. RIDGWAY. On a small Collection of Birds from Costa Rica. (Proc. U.S. Nat. Mus. xvi. p. 609.)
25. STEJNEGER. Notes on a Third Instalment of Japanese Birds in the Science College Museum, Tokyo, Japan, with Descriptions of New Species. (Proc. U.S. Nat. Mus. xvi. p. 615.)
26. Trinidad Field Naturalists' Club. (Vol. i. nos. 8-10, 1893.)
27. Verhandlungen der deutschen zoologischen Gesellschaft auf der zweiten Jahresversammlung zu Berlin, den 8. bis 10. Juni 1892. Herausgegeben von Prof. Dr. J. W. Spengel. (8vo. Leipzig, 1892.)

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON.



LONDON:
GURNEY AND JACKSON, 1, PATERNOSTER ROW.
(SUCCESSORS TO JOHN VAN VOORST.)

Annual Subscription, payable before 31st March each year, £1 1s.

XXIV. Letters, Extracts, Notices, &c.

Letters from Mr. John Whitehead, Mr. A. Everett, Heer F. E. Blaauw, Mr. L. W. Wigglesworth, the Rev. Canon Tristram, Dr. W. T. Blanford, Mr. E. Hartert, and Mr. W. P. Pycraft. The Structure and Variations of the Bird's-Egg; Dates of Publication of Jardine and Selby's 'Illustrations of Ornithology'; An extinct Apterygine Bird in Australia; Sale of a Great Auk's Egg; The Black Crow of Somaliland; Supposed new extinct Gigantic Bird in Australia; Mr. R. C. L. Perkins in the Sandwich Islands 316

PUBLICATIONS RECEIVED SINCE THE ISSUE OF No. 21, SIXTH SERIES,
AND NOT NOTICED IN THE PRESENT NUMBER.

28. ADAIR. The Short-eared Owl and the Kestrel (*F. tinnunculus*), in the Vole Plague Districts. (Ann. Scottish Nat. Hist. 1892, p. 219.)
29. ANDERSEN. *Ligurinus sinicus* i Danmark. (Vidensk. Meddel. naturh. Foren. i Kbhvn. 1893, p. 166.)
30. Annals of Scottish Natural History. (1894, No. 9.)
31. BLASIUS. Das neue Japanische und Russische Jagdgesetz, vom Standpunkte des Vogelschützers aus betrachtet. (Orn. Monats. Deutsch. Ver. z. Schutze d. Vogelw. xviii. 1893.)
32. BREWSTER. A Brood of young Flickers (*Colaptes auratus*), and how they were fed. (Auk, x. p. 231.)
33. BÜTTIKOFER. Description of a new Genus of Crakes. (Notes Leyden Mus. xv. p. 274.)
34. BÜTTIKOFER. Ornithologische Sammlungen aus Celebes, Saleyer und Flores. (Zool. Ergebnisse einer Reise in Niederl. Ost-Indien, Band iii.)
35. CHAPMAN. On the Birds of the Island of Trinidad. (Bull. Amer. Mus. Nat. Hist. vi. pp. 1-86.)
36. CLARKE. The Persecution of the Great Skua (*Stercorarius catarrhactes*). (Ann. Scottish Nat. Hist. 1894, p. 8.)
37. COLLETT. Mindre Meddelelser vedrørende Norges Fuglefauna i Aarene 1881-92. (Nyt Mag. f. Naturv. xxxv. Sheets 13-25.)
38. ELLIOT. The Life and Services of John James Audubon. (Trans. N. York Ac. Sci. xiii. p. 45.)
39. FINSCH. Einiges über Südsee-Rallen. (Orn. Monats. Deutsch. Ver. z. Schutze d. Vogelw. xviii. p. 457.)
40. FLOWER. Address to the Museums Association, July 1893. (8vo. London, 1893.)
41. LATASTE. Minuscule Contribution à l'Ornithologie Chilienne. (Procès-Verb. Soc. Scient. Chili, 1893, p. cxiii.)
42. LATASTE. List d'Oiseaux recueillis par M. le Dr. F. Delfin dans le détroit de Magellan et environs. (Procès-Verb. Soc. Scient. Chili, 1893, p. cxxi.)
43. LEVERKÜHN. Materialien zum Kapitel "Sonderbare Brutstätten" (Orn. Monats. Deutsch. Ver. z. Schutze d. Vogelw. xviii.), and 6 other pamphlets.
44. MATHEW. A Revised List of the Birds of Somerset. (8vo. Taunton, 1893.)
45. MEYER. Beschreibung einiger neuen Vögel aus dem Ostindischen Archipel. (J. f. O. 1894, p. 89.)
46. MILNE-EDWARDS et OUSTALET. Notice sur quelques espèces d'Oiseaux actuellement éteintes qui se trouvent représentées dans les collections du Muséum d'Histoire Naturelle. (Extrait du Vol. commémoratif du Centenaire de la Fondation Mus. d'Hist. Nat. 1893.)
47. NATURE NOTES. The Selborne Society's Magazine (No. 38, Vol. iv.)
48. NELSON and PALMER. Descriptions of five new Birds from Mexico. (Auk, xi. p. 39.)
49. The Nidologist. (Vol. i. no. 4, 1893.)
50. Ornithologisches Jahrbuch. (Jahr. iv. 1893, Heft 6; Jahr. v. Heft 1.)
51. OUSTALET. Notice sur le *Drepanornis bruijini* (Nouv. Arch. d. Mus. sér. 3, v. p. 295 (1893), and 12 other pamphlets.
52. PARROT. Ornithologisches aus dem britischen Museum. (Ornith. Monatss. xvi. p. 343.)
53. PARROT. Ueber die Grossenverhältnisse des Herzens bei Vögeln. (Zool. Jahrb. vii. p. 496.)

	Page
XIII. On the Birds of Uruguay. By O. V. APLIN. With an Introduction and Notes by P. L. SCLATER. (Plate V.)	149
XIV. On some Birds collected in the Vicinity of Foochow. By C. B. RICKETT, F.Z.S. With Notes by HENRY H. SLATER	215
XV. On a Bird's-nesting Excursion to the North of Norway in 1893. By HENRY J. PEARSON and EDWARD BIDWELL	226
XVI. On a Collection of Birds sent by Mr. Alfred H. Everett from the Sulu Archipelago. By R. BOWDLER SHARPE, LL.D., F.L.S., &c. (Plates VI. & VII.)	238
XVII. Descriptions of the Eggs of three Species of South Australian Parrakeets. By ALFRED J. NORTH, Assistant in Ornithology, Australian Museum, Sydney	259
XVIII. A few Observations on some Species of <i>Phylloscopus</i> . By W. EDWIN BROOKS	261
XIX. Note on the Aquatic Habits of the Chajá (<i>Chauna chavaria</i>). By R. LYDEKKER, F.Z.S.	268
XX. On the Occurrence of <i>Colymbus adamsi</i> in Norway. By Prof. R. COLLETT, F.M.Z.S. (Plate VIII.)	269
XXI. On the Scientific Names of the Imperial and Spotted Eagles and on the Generic Names of Bonelli's Eagle and the Black Eagle. By W. T. BLANFORD, F.R.S.	283
XXII. Bulletin of the British Ornithologists' Club. Nos. XIII.—XV.	290
XXIII. Notices of recent Ornithological Publications:—	
22. Andrews on a new <i>Apyornis</i>	303
23. Büttikofer on two new Birds from South Celebes	
24. Büttikofer on a new <i>Pachycephala</i>	304
25. Büttikofer on two new <i>Stoparola</i>	
26. Büttikofer on a new <i>Gerygone</i>	305
27. Büttikofer on new Birds from Java and Celebes	
28. Büttikofer on two new Species of <i>Gerygone</i>	306
29. Dresser's Monograph of the Rollers	
30. Elliot's Monograph of the <i>Pittidae</i>	307
31. Fowler on the Marsh-Warbler	
32. Hartert's Remarks on German Birds	308
33. Hutton on the so-called <i>Dinornis queenslandiae</i>	
34. Kaiser on the Birds of Sinai	309
35. Milne-Edwards and Grandidier on <i>Apyornis</i>	
36. North on the Occurrence of the Corn-Crake in Australia	312
37. North on a new Australian Parrakeet	
38. 'Novitates Zoologicae.'—No. I.	313
39. Ogilvie-Grant on the Game Birds	
40. Pycraft on the Barbs of Feathers	314
41. Reichenow on the Birds of Adeliland	
42. Rhoads on <i>Parus hudsonicus</i> and its Allies	315
43. Richmond on Birds from Nicaragua and Costa Rica	
44. Ridgway on new Birds from Aldabra and the adjoining Islands	316
45. Ridgway on some Costarican Birds	
46. Ridgway on the Genus <i>Myiarchus</i>	317
47. Rothschild on the Avifauna of Laysan	
48. Sharpe and Wyatt on the <i>Hirundinidae</i>	318
49. Stejneger on Japanese Birds	

[Contents continued on page 2 of Wrapper.]

Covers for binding last year's Volume may be had on application to the Publishers.

Communications may be addressed to the EDITOR, 3 Hanover Square, London, W. Advertisements &c. to the Publishers, GURNEY & JACKSON, 1 Paternoster Row, London, E.C. (Successors to J. VAN VOORST).

Members of the B. O. U. are requested to keep the Secretary, F. DUCANE GODMAN, Esq., 10 Chandos Street, Cavendish Square, W., informed of any

54. PYCRAFT. *Ving of Archaeopteryx.* (Journ. Oxford Univ. Jan. Sci. Club, 1894, No. 12.)
55. RIDGWAY. A Revision of the Genus *Formicarius*, Bodd. (Proc. U.S. Nat. Mus. xvi. p. 667.)
56. RIDGWAY. Description of a new Storm-Petrel from the Coast of Western Mexico. (Proc. U.S. Nat. Mus. xvi. p. 687.)
57. SEEBOHM. Address to the Yorkshire Naturalists' Union, Skipton, 1893. (8vo. London, 1893.)
58. SHUFFELDT. Some recent Economic and Scientific Questions in Ornithology. ('Science,' xxii. p. 255, 1893.)
59. Transactions of the Cage-Bird Club, 1893-94.
-

Second Edition. Parts 1-26, ready, price 12s. 6d. each, net.

**COLOURED FIGURES OF THE
BIRDS OF THE BRITISH ISLANDS.**

ISSUED BY

LORD LILFORD, F.Z.S. &c.,

PRESIDENT OF THE BRITISH ORNITHOLOGISTS' UNION.

In two Volumes, Royal 8vo. £3 3s. net.

ARGENTINE ORNITHOLOGY:

By P. L. SCLATER, M.A., PH.D., F.R.S., ETC.

WITH NOTES ON THEIR HABITS

By W. H. HUDSON, C.M.Z.S.,

LATE OF BUENOS AYRES.

With 20 Coloured Plates by J. G. Keulemans.

In the Press, demy 8vo, cloth, price 10s. 6d. net.

Large Paper (Imp. 8vo), only 100 printed, 21s. net.

**THE BIRDS OF PEMBROKESHIRE
AND ITS ISLANDS.**

BY THE

REV. MURRAY A. MATHEW, M.A.

Illustrated with Maps and Photographs of Bird-Stations in the Islands.

THE

AVIFAUNA OF LAYSAN

AND THE NEIGHBOURING ISLANDS;

With a Complete History of the

BIRDS OF THE HAWAIIAN POSSESSIONS.

By THE HON. WALTER ROTHSCHILD.

Illustrated with Coloured and Black Plates and
Collotype Photographs.

Imperial 4to (15 in. $\times$ 11 $\frac{1}{4}$ in.), in 3 Parts (Parts I. and II. ready),
price **£3 3s.** each, net.

Demy 8vo. 2s. net.

BIRD-LIFE IN ARCTIC NORWAY.

By ROBERT COLLETT.

TRANSLATED BY ALFRED H. COCKS, M.A.

BULLETIN of the BRITISH ORNITHOLOGISTS' CLUB.

Edited by Dr. R. BOWDLER SHARPE.

Vol. I. complete: as issued 6s. net, or bound in cloth 7s. 6d. net.

R. H. PORTER, 18 PRINCES STREET, CAVENDISH SQUARE, W.

THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON.



LONDON:
GURNEY AND JACKSON, 1, PATERNOSTER ROW.
(SUCCESSORS TO JOHN VAN VOORST.)

Annual Subscription, payable before 31st March each year, £1 1s.

	Page
66. Sharpe on the <i>Fulicarie</i> and <i>Alectorides</i>	443
67. Stuhlmann on Emin Pasha's last Journey.	445
68. Wilson and Evans's 'Aves Hawaienses'	446
69. Wyatt's 'British Birds'	447
XLI. Letters, Extracts, Notices, &c.	
Letters from Mr. Henry J. Pearson, Mr. William E. De Winton, Mr. J. Backhouse, Mr. Knud Andersen, Mr. C. C. Trowbridge, Mr. G. E. H. Barrett-Hamilton, and Mr. Robert Patterson. Great Bustard Breeding in Captivity; <i>Hirundo gutturalis</i> at Brighton; the <i>Nectarinia</i> of Mount Kenia; Marbled Duck in Bavaria; <i>Pelecanus crispus</i> in Italy; Tinamous as Food: New Monograph of the Cranes; Patria of <i>Cacatua gymnopsis</i> ; Ornithologists on their Travels; Anniversary Meeting of the British Ornithologists' Union, 1894; Rare Birds in the Museo Civico, Milan; Meeting of the German Ornithological Society. Obituary—Dr. A. v. Middendorff, Dr. L. v. Schrenck, and Herr Oberamtmann Ferdinand Heine	447

PUBLICATIONS RECEIVED SINCE THE ISSUE OF No. 22, SIXTH SERIES,
AND NOT NOTICED IN THE PRESENT NUMBER.

60. Annals of Scottish Natural History. (1894, no. 10.)
61. Bericht über das Kaukasische Museum und die öffentliche Bibliothek in Tiflis für das Jahr 1893.
62. BRIGGS. Some further Bird-Notes from North Ronaldshay. (Ann. Scottish Nat. Hist. 1894, p. 82.)
63. BUTLER. The Range of Crossbills in the Ohio Valley, with Notes on their unusual Occurrence in Summer. (Amer. Nat. 1894, p. 136.)
64. COLLETT. Bird-Life in Arctic Norway. Translated by A. H. Cocks, M.A. (8vo. London, 1894.)
65. DOBIE. Birds of West Cheshire, Denbighshire, and Flintshire. (Proc. Chester Soc. Nat. Sci. and Lit. 1893, pt. iv. p. 282.)
66. HARTERT. Wie hält der fliegende Raubvogel seine Beine? (Ornith. Monatsb. 1894, no. 1.)
67. HUDSON. Lost British Birds. (8vo. London, 1894.)
68. JOUY. Notes on Birds of Central Mexico, with Descriptions of Forms believed to be new. (Proc. U.S. Nat. Mus. xvi. p. 771.)
69. LEVERKÜHN. Obituary Notice of Baldamus. (Ornith. Monats. Deutsch. Ver. z. Schutze d. Vogelw. xviii. p. 472.)
70. LEVERKÜHN. Obituary Notice of Von Schrenck und Von Middendorff. (Ornith. Monats. Deutsch. Ver. z. Schutze d. Vogelw. xix. p. 98.)
71. LEVERKÜHN. Liebe's ornithologische Schriften. ('Die Schwalbe,' 1893.)
72. LEVERKÜHN. Bücher-Vorlagen aus der Bibliothek Leverkus. Erste Serie. No. 1 bis 250. (Ornith. Monats. Deutsch. Ver. z. Schutze d. Vogelw. 1891-93.)
73. LEVERKÜHN. Ornithologische Notizen vom Lechfeldt und aus dem Herbstmanöver 1892. (Ornith. Monats. Deutsch. Ver. z. Schutze d. Vogelw. 1893, p. 388.)
74. LEVERKÜHN. Auf ornithologischer Streifzügen. ('Die Schwalbe,' no. 7, vom 16 Juli, 1893.)
75. LEVERKÜHN. Ueber das Brutgeschäft der Crotophagiden. (J. f. O. 1894, p. 44.)
76. LUCAS. The Tongue of the Cape May Warbler. (Auk, xi. p. 141.)
77. MEYER und WIGLESWORTH. Beschreibung einiger neuen Vögel der Celébes-Region. (J. f. O. 1894, p. 113.)
78. Mittheilungen des ornithologischen Vereines in Wien. (Band xvii. no. 12, Band xviii. nos. 1-5.)
79. Oologist. (Vol. xi. no. 4.)
80. Ornithologisches Jahrbuch. (Jahr. v. Hefte 2, 3.)
81. OUSTALET. Description d'une nouvelle Espèce de Cascar de l'Île Jobi. (C. R. Soc. Philom. Paris, no. 9, Février 1893.)
82. Proceedings of the Chester Society of Natural Science and Literature. (No. iv., 1894.)

	Page
XXV. Notes on the Ornithology of China. By F. W. STYAN, F.Z.S. (Plate IX.)	329
XXVI. On the Chinese Species of the Genus <i>Suthora</i> . By HENRY SEEBOHM, F.Z.S.	338
XXVII. A Contribution towards the Ornithology of West Jutland. By ALFRED CRAWHALL CHAPMAN	339
XXVIII. On a Collection arranged to illustrate the General Characters of the Eggs of Birds. By Sir WILLIAM H. FLOWER, K.C.B., F.R.S.	351
XXIX. On cases of Complete Fibulae in existing Birds. By Dr. R. W. SHUFFELDT, C.M.Z.S.	361
XXX. List of Birds observed in Dras and Suru. By Lieut. W. WILFRID CORDEAUX, M.B.O.U. (Queen's Bays)	367
XXXI. On the Crimson-headed Wood-Partridge (<i>Hematortyx sanguiniceps</i>). By W. R. OGILVIE GRANT. (Plate X.)	374
XXXII. On some new or little-known Shrikes from Central Asia. By M. MENZBIER, Professor of Zoology and Comparative Anatomy in the University of Moscow	378
XXXIII. Remarks on some Specimens of Central-Asiatic Shrikes. By H. E. DRESSER, F.L.S., F.Z.S.	384
XXXIV. Descriptions de quelques Espèces nouvelles d'Oiseaux du Pérou central. Par le COMTE HANS DE-BERLEPSCH et JEAN STOLZMANN. (Plate XI.)	385
XXXV. On the Birds of the Philippine Islands.—Part I. Mount Arajat, Central Luzon. By W. R. OGILVIE GRANT. With Field-Notes by JOHN WHITEHEAD	406
XXXVI. On the Distribution of Genera and Species of Non-migratory Land-Birds in the Philippines. By J. B. STEERE, Professor of Zoology and Comparative Anatomy in the University of Michigan	411
XXXVII. Bornean Notes: No. II. By R. BOWDLER SHARPE, LL.D., F.L.S., &c.	421
XXXVIII. Note on some newly-discovered Eggs of the Great Auk. By EDWARD BIDWELL	422
XXXIX. Bulletin of the British Ornithologists' Club. Nos. XVI.—XVIII.	424
XL. Notices of recent Ornithological Publications:—	
50. Büttikofer on Birds from Celebes, Saleyer, and Flores	435
51. Chapman on the Birds of Trinidad	436
52. Clarke on the Persecution of the Great Skua	437
53. Collett's Contributions to the Norwegian Avifauna	
54. Elliot's 'Monograph of the <i>Pittidae</i> '	438
55. Lansdell on Birds from Central Asia	439
56. Mathew on the Birds of Somerset	
57. Meyer on new East-Indian Birds	440
58. Milne-Edwards on the extinct Birds of the Mascarene Islands and Madagascar	
59. Milne-Edwards and Oustalet on recently extinct Birds	441
60. Nelson and Palmer on new Birds from Mexico	
61. Oustalet on <i>Drepanornis bruijnii</i>	442
62. Oustalet on new Birds in the Paris Collection	
63. Ridgway on the Genus <i>Formicarius</i>	
64. Ridgway on a new Storm-Petrel	
65. Sharpe's 'Monograph of the <i>Paradisæide</i> '	

[*Contents continued on page 2 of Wrapper.*]

Covers for binding last year's Volume may be had on application to the Publishers.

Communications may be addressed to the EDITOR, 3 Hanover Square, London, W. Advertisements &c. to the Publishers, GURNEY & JACKSON, 1 Paternoster Row, London, E.C. (Successors to J. VAN VOORST).

83. RIDGWAY. Catalogue of a Collection of Birds made in Alaska by Mr. C. H. Townsend during the Cruise of the U.S. Fish Commission Steamer 'Albatross,' in the Summer and Autumn of 1888. (Proc. U.S. Nat. Mus. xvi. p. 663.)

84. RIDGWAY. Description of a new *Geothlypis* from Brownsville, Texas. (Proc. U.S. Nat. Mus. xvi. p. 691.)

85. SALVADORI. Caratteri di cinque Specie nuove di Uccelli della Nuova Guinea Orientale-Meridionale raccolti da L. Loria. (Ann. Mus. Stor. Nat. Genova, ser. 2, xiv. p. 150.)

86. SALVADORI. Uccelli del Somali, raccolti da D. Eugenio dei Principi Ruspoli. (Mem. R. Acc. Sci. Torino, ser. 2, xlv. p. 547.)

87. SCHALOW. Beiträge zur Oologie der recenten Ratiten. (J. f. O. 1894, p. 1.)

88. TAIT. Aves de Portugal. (Ann. Scienc. Naturees, Porto, i. p. 21.)

89. Transactions of the Cage-Bird Club. (Vol. ii. pp. 1-66.)

90. TREVOR-BATTYE. Pictures in Prose of Nature, Wild Sport, and Humble Life. (8vo. London, 1894.)

91. TSCHUSI ZU SCHMIDHOFFEN. Meine bisherige literarische Thätigkeit, 1865-93. (8vo. Hallein, 1894.)

92. WINGE. Fuglene ved de danskye Fyr i 1893. (Vidensk. Naturh. Foren. i Kjöbenhavn, 1894, p. 15.)

Second Edition. Parts 1-26, ready; price 12s. 6d. each, net.

**COLOURED FIGURES OF THE
BIRDS OF THE BRITISH ISLANDS.**

ISSUED BY

LORD LILFORD, F.Z.S. &c.,

PRESIDENT OF THE BRITISH ORNITHOLOGISTS' UNION.

In two Volumes, Royal 8vo. £3 3s. net.

ARGENTINE ORNITHOLOGY:

By P. L. SCLATER, M.A., PH.D., F.R.S., ETC.

WITH NOTES ON THEIR HABITS

By W. H. HUDSON, C.M.Z.S.,

LATE OF BUENOS AYRES.

With 20 Coloured Plates by J. G. Keulemans.

In the Press, demy 8vo, cloth, price 10s. 6d. net.

Large Paper (Imp. 8vo), only 100 printed; 21s. net.

**THE BIRDS OF PEMBROKESHIRE
AND ITS ISLANDS.**

BY THE

REV. MURRAY A. MATHEW, M.A.

Illustrated with Maps and Photographs of Bird-Stations in the Islands.

Complete in one Volume, Imp. 4to, cloth, £5 5s. net.

A MONOGRAPH

OF THE

CORACIIDÆ, OR FAMILY OF THE ROLLERS.

By H. E. DRESSER, F.L.S., F.Z.S., ETC.

Illustrated with 27 Coloured Plates by J. G. Keulemans.

Demy 8vo. 2s. net.

BIRD-LIFE IN ARCTIC NORWAY.

By ROBERT COLLETT.

TRANSLATED BY ALFRED H. COCKS, M.A.

BULLETIN of the BRITISH ORNITHOLOGISTS' CLUB.

Edited by Dr. R. BOWDLER SHARPE.

Vol. I. complete: as issued 6s. net, or bound in cloth 7s. 6d. net.

B. H. PORTER, 18 PRINCES STREET, CAVENDISH SQUARE, W.



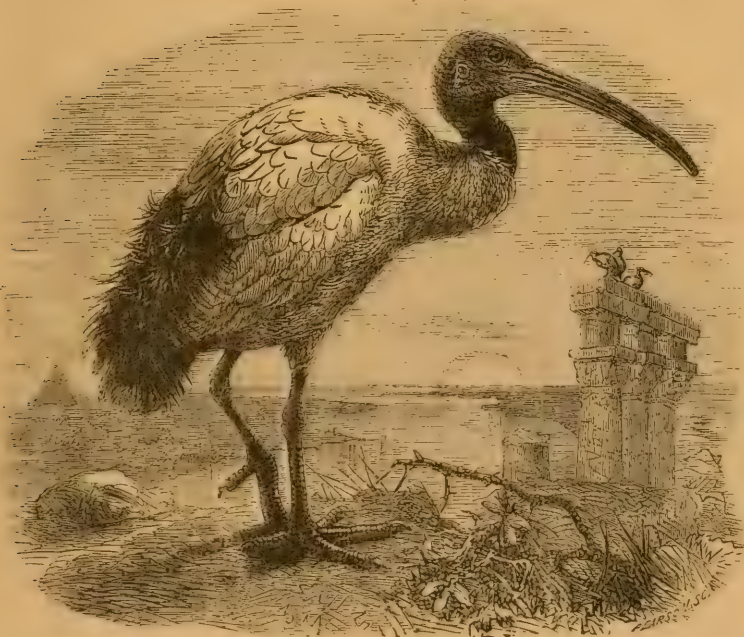
THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,
SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON.



LONDON:

GURNEY AND JACKSON, 1, PATERNOSTER ROW.
(SUCCESSORS TO JOHN VAN VOORST.)

Annual Subscription, payable before 31st March each year, £1 1s.



	Page
91. Pycraft on the Wing of <i>Archæopteryx</i>	563
92. Ridgway on Birds from Alaska	
93. Ridgway on a new <i>Geothlypis</i>	
94. Salvadori on new Birds from New Guinea	
95. Salvadori on Birds from Somali-land	564
96. Seebohm on the Distribution of British Birds	
97. Sharpe's Handbook to the Birds of Great Britain	565
98. Stone on the Genus <i>Anous</i>	567
99. Tschusi zu Schmidhoffen's List of his Memoirs	568
100. Wickmann on the Colour of Birds'-eggs	
LIV. Letters, Extracts, Notices, &c.	
Letters from Mr. W. L. Distant, Herr A. Nehrkorn, Mr. W. R. Ogilvie Grant, Dr. W. T. Blanford, and Mr. Howard Saunders. The new Extinct Gigantic Bird of Australia; The Birds of Damma Island; The Jackson-Harmsworth Polar Expedition; The Destruction of Small Birds; Mr. Cory's Collection of Birds. Obituary—Mr. Brian H. Hodgson, Dr. L. Coulon, Mr. P. L. Jouy	569
Index of Scientific Names	583
Index of Contents	601
Titlepage, Preface, List of Members, and Contents.	
General Index to the Sixth Series.	

PUBLICATIONS RECEIVED SINCE THE ISSUE OF No. 23, SIXTH SERIES,
AND NOT NOTICED IN THE PRESENT NUMBER.

93. Annals of Scottish Natural History. (1894, no. 11.)
94. Anzeigebblatt der ornithologischen Monatschrift des deutschen Vereins zum Schutze der Vogelwelt. (1894, no. 7.)
95. BENDIRE. Description of Nests and Eggs of some new Birds, collected on the Island of Aldabra, N.W. of Madagascar. By Dr. W. L. Abbott. (Proc. U.S. Nat. Mus. xvii. p. 39.)
96. BULLER. On the Birds observed during a Voyage from New Zealand to England. (Trans. N. Z. Inst. 1893, p. 182.)
97. CHAPMAN. The Nocturnal Migration of Birds. (Popular Science Monthly, 1894, p. 506.)
98. CHAPMAN. Remarks on the Origin of Bird Migration. (The Auk, xi. p. 12.)
99. FESTA. Viaggio del Dr. E. Festa in Palestina, nel Libano e regioni vicine. (Boll. Mus. Zool. ed Anat. Comp. R. Univ. Torino, ix.)
100. GOODCHILD. Some of the Birds observed in Upper Swaledale. (Naturalist, 1890, p. 248.)
101. GRANT. On the Changes of Plumage in the Red Grouse (*Lagopus scoticus*). (Ann. Scottish Nat. Hist. 1894, p. 129.)
102. GURNEY. On the Partial Assumption by Female Birds of Male Plumage. (Zoologist, 1894, p. 1.)
103. HINXMAN and CLARKE. A Contribution to the Vertebrate Fauna of West Ross-shire. (Proc. R. Phys. Soc. Edinb. xii. p. 377.)
104. LE SOUËF. Description of some Australian Birds' Eggs and Nests collected at Bloomfield, near Cooktown, Queensland. (Proc. R. Soc. Victoria, 1894, p. 19.)
105. LE SOUËF. A Trip to North Queensland. (Victorian Naturalist, xi. p. 3, 1894.)
106. MATHEW. The Birds of Pembrokeshire and its Islands. (8vo. London, 1894.)
107. MEYER and WIGLESWORTH. Ueber eine erste Sammlung von Vögeln von den Talaut Inseln. (J. f. O. 1894, p. 237.)
108. MILLAIS. Game Birds and Shooting-Sketches. Second edition. (Royal 8vo. London, 1894.)
109. NORTH. Exhibition of, and remarks upon, eggs of *Collyriocincla harmonica* and *Cacomantis pallida* from Woolli Creek. (Proc. Linn. Soc. N. S. Wales, ser. 2, viii. p. 436.)
110. NORTH. Notes on the Red-crowned Parrakeet (*Cyanorhamphus cooki*) of Norfolk Island. (Proc. Linn. N. S. Wales, ser. 2, viii. p. 517.)

	Page
XIII. Third List of the Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland. By Captain G. E. SHELLEY, F.Z.S. (Plate XII.)	461
XLIII. On some Birds collected on Byingyi Mountain, Shan States, Burma. By EUGENE W. OATES, F.Z.S. (Plate XIII.)	478
XLIV. On the Nesting of <i>Phibalura flavirostris</i> and <i>Lochmias nematura</i> . By Dr. EMIL A. GOELDI	484
XLV. Remarks on the Birds of Antarctica. By P. L. SCLATER, M.A., Ph.D., F.R.S.	494
XLVI. On the Birds of the Philippine Islands.—Part II. The Highlands of North Luzon, 5000 feet. By W. R. OGILVIE GRANT. With Field-Notes by JOHN WHITEHEAD. (Plates XIV. & XV.)	501
XLVII. On a new Species of Fern-bird (<i>Sphenorvacus</i>) from the Snares Islands. By Sir WALTER L. BULLER, K.C.M.G., Sc.D., F.R.S.	522
XLVIII. Notes on the Indian Owls. By W. T. BLANFORD	524
XLIX. On some Birds from the Island of Negros, Philippines. By WM. EAGLE CLARKE, F.L.S.	531
L. On a new Species of Guinea-fowl. By W. R. OGILVIE GRANT	535
LI. Bornean Notes: No. III. By R. BOWDLER SHARPE, LL.D., F.L.S., &c.	538
LII. Bulletin of the British Ornithologists' Club. No. XIX.	546
LIII. Notices of recent Ornithological Publications:—	
70. Adair on the Short-eared Owl and Kestrel in the Vole-plague Districts of Scotland	552
71. Andersen on the Occurrence of <i>Ligurinus sinicus</i> in Denmark	553
72. 'Aquila': a new Hungarian Journal of Ornithology	553
73. Bower on the Birds of Tibet	554
74. Butler on the Distribution of Crossbills in North America	554
75. Collett on Bird-life in Arctic Norway.	555
76. Dobie on the Birds of Cheshire, Denbighshire, and Flintshire	555
77. Elliot on the Life and Services of Audubon	556
78. Finsch on a rare Rail	556
79. Flower on the Arrangement of Museums	557
80. Hartert on the Mode of Flight of the Accipitres	557
81. Hudson on Lost British Birds	558
82. Jouy on Birds from Central Mexico	558
83. Lataste on Chilian Birds	559
84. Leverkühn on the Breeding of the <i>Crotophagide</i>	560
85. Meyer and Wiglesworth on new Birds from Celebes and its neighbourhood	560
86. Oustalet on a new Cassowary	561
87. Oustalet on new Birds from Congoland	561
88. Oustalet on Birds from the Algerian Sahara	561
89. Oustalet on the Birds of Turkestan, Tibet, and Western China	561
90. Parrot on the Size of the Heart in Birds	562

[Contents continued on page 2 of Wrapper.]

Covers for binding last year's Volume may be had on application to the Publishers.

Communications may be addressed to the EDITOR, 3 Hanover Square, London, W. Advertisements &c. to the Publishers, GURNEY & JACKSON, 1 Paternoster Row, London, E.C. (Successors to J. VAN VOORST).

Members of the B. O. U. are requested to keep the Secretary, F. DUCANE GODMAN, Esq., 10 Chandos Street, Cavendish Square, W., informed of any change of Residence, so that the Numbers of 'The Ibis' may be sent to them without delay.

111. PRAŽÁK. Ornithologische Beobachtungen aus Nord-Ost-Böhmen (1888-92). (Ornith. Jahrb. iv. p. 85, 1893.)
112. PRAŽÁK. Zur Ornith. Nord-Ost-Böhmens. (Ornith. Jahrb. v. p. 41, 1894.)
113. PRENTIS. Notes on the Birds of Rainham. (8vo. London, 1894.)
114. ROTHSCILD. First Glimpses of the Zoology of the Natuna Islands. (Novitates Zool. i. p. 467.)
115. SCHALOW. Darf die Erforschung der deutschen Vogelwelt als abgeschlossen betrachtet werden? (J. f. O. 1894, p. 270.)
116. STEJNEGER. Notes on a Japanese Species of Reed-Warbler. (Proc. U.S. Nat. Mus. xvii. p. 205.)
117. STONE. A Review of the Old World Rallinæ. (Proc. Ac. Nat. Sci. Philad. 1894, p. 130.)
118. Transactions of the Cage-Bird Club. (Vol. ii. pp. 67-118.)
119. TSCHUSI ZU SCHMIDHOFFEN. Erstes Exemplar des östlichen Eis-
tauchers (*Colymbus glacialis adamsi*, Gray) aus Oesterreich-Ungarn. (Ornith. Jahrb. v. p. 145, 1894.)
120. WAUGH et LATASTE. Quelques jours de chasse à Peñaflor durant les
mois de janvier et de mars. (Procès-verbaux Soc. Scient. du Chili, 1894,
p. lxxxiii.)

Second Edition. Parts 1-28, ready, price 12s. 6d. each, net.

**COLOURED FIGURES OF THE
BIRDS OF THE BRITISH ISLANDS.**

ISSUED BY

LORD LILFORD, F.Z.S. &c.,

PRESIDENT OF THE BRITISH ORNITHOLOGISTS' UNION.

In two Volumes, Royal 8vo. £3 3s. net.

ARGENTINE ORNITHOLOGY:

By P. L. SCLATER, M.A., PH.D., F.R.S., ETC.

WITH NOTES ON THEIR HABITS

By W. H. HUDSON, C.M.Z.S.,

LATE OF BUENOS AYRES.

With 20 Coloured Plates by J. G. Keulemans.

Demy 8vo, cloth, price 10s. 6d. net.

Large Paper (Imp. 8vo), only 100 printed, 21s. net.

**THE BIRDS OF PEMBROKESHIRE
AND ITS ISLANDS.**

BY THE

REV. MURRAY A. MATHEW, M.A.

Illustrated with Maps and Photographs of Bird-Stations in the Islands.

Complete in one Volume, Imp. 4to, cloth, £5 5s. net.

A MONOGRAPH

OF THE

CORACIIDÆ, OR FAMILY OF THE ROLLERS.

By H. E. DRESSER, F.L.S., F.Z.S., ETC.

Illustrated with 27 Coloured Plates by J. G. Keulemans.

Demy 8vo. 2s. net.

BIRD-LIFE IN ARCTIC NORWAY.

By ROBERT COLLETT.

TRANSLATED BY ALFRED H. COCKS, M.A.

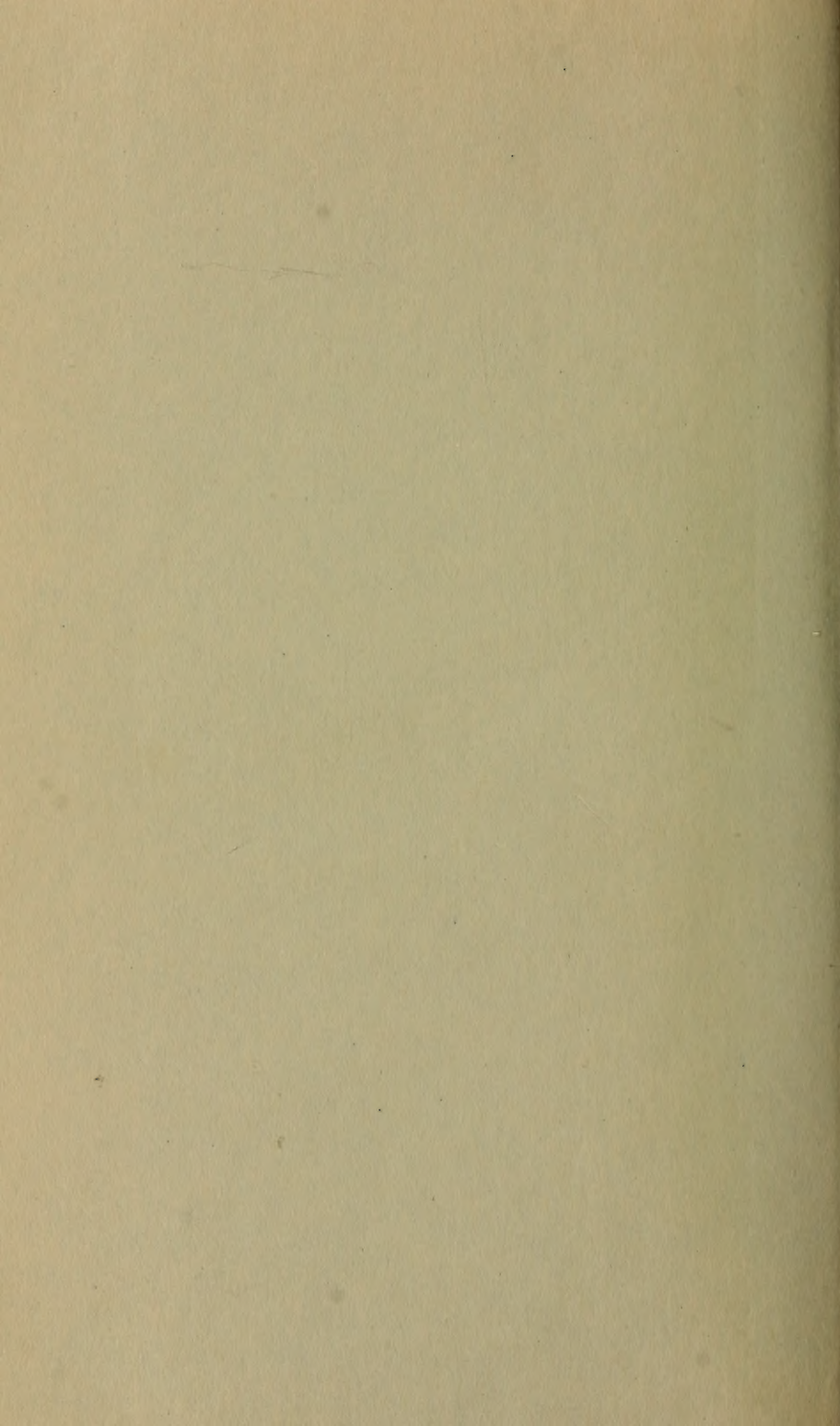
BULLETIN of the BRITISH ORNITHOLOGISTS' CLUB.

Edited by Dr. R. BOWDLER SHARPE.

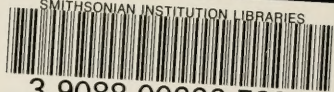
Vols. I. and III. complete: as issued 6s. each net, or bound in cloth

1425 (30) 7s. 6d. each net.

R. H. PORTER, 18 PRINCES STREET, CAVENDISH SQUARE, W.



SMITHSONIAN INSTITUTION LIBRARIES



3 9088 00996 5831